THE

CANADA SCHOOL JOURNAL,

—DEVOTED TO—

The Interests of Education and the Teaching Profession

IN THE

DOMINION OF CANADA.

Recommended by the Minister of Education for Ontario.
Recommended by the Council of Public Instruction in Quebec.
Recommended by the Chief Supt. of Education for New Brunswick.
Recommended by the Chief Supt. of Education, British Columbia.
Recommended by the Chief Supt. of Education, Nova Scotia.
Recommended by the Board of Education, Manitoba.

VOLUME VI.

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CANADA SCHOOL JOURNAL HAS RECEIVED

An Honorable Mention at Paris Exhibition, 1878.
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The Publishers frequently receive letters from their friends complaining of the non-receipt of the JOURNAL. In explanation they would state, as subscriptions are necessarily payable in advance, the mailing clerks have instructions to discontinue the paper when a subscription expires. The clerks are, of course, unable to make any distinction in a list containing names from all parts of the United States and Canada.

A MISTAKE CORRECTED.

We are glad to correct a statement in our article on co-education to the effect that the authorities of the University refused the use of the room for the meeting of undergraduates on the co-education question. It appears that the use of the room, as a matter of fact, was not actually refused, although such was certainly the impression, at the time our article was written, among most of those interested in the subject.

1881.

The close of a year marked by an experiment of unusual effort and money expenditure in enlarging the CANADA SCHOOL JOURNAL, and adding considerably to its staff, has brought results that have more than repaid the promoters of our paper for their enterprise. The merits of the CANADA SCHOOL JOURNAL as a representative educational paper have been widely acknowledged by the educational press in England and in the States. To quote an instance of this, and it is but one among many, the *Institute Worker*, a new journal of education under the able editorship of Mr. T. W. Field, recommends all interested in teaching to take both their own State School Journal, and in addition, the CANADA SCHOOL JOURNAL. But apart from literary merit, the year 1880 has brought abundant evidence of the greatly increased acceptance of the CANADA SCHOOL JOURNAL as a paper specially and *par excellence* representing the teaching interest of this country. This has taken the unimpeachable shape not merely of extended circulation, but of entire teachers' associations unanimously resolving to send the CANADA SCHOOL JOURNAL to every teacher in their county at the expense of the association.

In pursuance of the policy which aims at supplying to the teachers of Canada, at the smallest possible cost, the maximum of value, it is the intention of the proprietors of this JOURNAL, during the year 1881, to fully maintain the efficiency of its several departments. The Mathematical Department will, as before, be conducted by a mathematician second to none in Canada for scientific acquirements, and whose high position as a mathematical teacher in the University of Toronto brings him in continual contact with the difficulties of practical work. The very great importance of this department to our readers will justify the prominence assigned to it, and the care expended in furnishing a continually fresh series of mathematical exercises.

The department of Teachers' Associations and Conventions will receive increased attention, a facility being given for this by the greatly enlarged size of the JOURNAL. In the proceedings of these associations is centered the vital action of the teaching profession. It is of the utmost importance that our readers should fully inform themselves of all that goes on at each convention. The meetings will, as before, be in most cases attended by a practical short-hand reporter representing the CANADA SCHOOL JOURNAL, and large extracts from the most important papers read will be printed.

The Practical Teachers' Department will as before be in the hands of a gentleman whose writings on similar questions have been stamped with the hall-mark of sterling merit not only by the approval of the great English educational journals, but by the fact that his Manuals of Teaching have been republished for school use in several of the leading cities of America. No pains will be spared to illustrate and develop new ideas as to methods of teaching. This is a subject which no teacher can afford to neglect, as the freshness and *verve* which is obtained by observing the continual progress of the teaching art in the hands of its most intelligent exponents is the only salvation from the fatal facility of routine.

As before, marked attention will be given to the Examination Papers department. It is of the utmost importance, not only to those preparing for examination, but to all teachers, to test and measure their knowledge by a continual use of this invaluable adjunct to study. A large number of original examination papers, as well as a selection from the best already extant, will be furnished by experienced teachers for the pages of the CANADA SCHOOL JOURNAL.

We desire also to remind our readers of the teaching profession that this journal has an extended circulation among School Trustees and those interested in education, outside the class of teachers. It has thus at command a powerful leverage, which it is the intention of the proprietors to exert to the utmost in promoting the two most important practical needs of the teaching profession—the increase of salary and the full assertion of that social position without which no profession can maintain its self-respect. On these subjects the CANADA SCHOOL JOURNAL will have the courage of its opinions, and will speak very plainly when plain speaking is so very

much required. The present remuneration of the labor on which the intellectual future of Canada depends is very far behind what it ought to be. It is true that a considerable advance has taken place, especially in the Province of Ontario, in this respect during the last ten years, a result due in no small degree to the wise policy of the present Minister of Education in raising the standard of examination, and in consequence the character of the teachers. The same thing is taking place in the provinces of Nova Scotia and New Brunswick, where the efforts of Dr. Allison and of Dr. Rand have been energetically directed to the same object. But the average pay of the teachers is still inadequate, and it will be one of the chief objects of our paper to promote reform in this respect. Every step gained, every school put on a better footing as regards salary, every trustee who can be impressed with the conviction that the vulgar parsimony which curtails the teacher's salary is as mischievous as it is illiberal, is so much progress made. In conclusion, the proprietors of the Canada School Journal respectfully invite the co-operation of teachers in writing to the columns of this paper on all subjects of professional interest. And we desire to submit it to their notice that one of the staff of editors will be present daily at the office of this journal between the hours of nine and six, and will be happy to confer on matters of educational interest with any of our readers who may honor him with a visit. We wish that the teaching profession should look on the Canada School Journal not merely as a literary representative, but as a trusty champion and professional and personal friend. In which spirit we give our readers the kindest of greetings for 1881.

"PLEASE STATE SALARY REQUIRED."

Most thinking persons are aware that there are some kinds of human labor in regard to which the maxim "Buy in the cheapest market" is false political economy. In all work that is done by machines or cattle, or by those serfs of feudalism and capital who have little more free action than cattle or machines, the "cheapest market" maxim is master of the situation. Such work commands its minimum value and no more. It is at the mercy of that which is most merciless—competition.

But in all labor of which skill is an element, such as teaching, it is evident that *quality* must be considered in determining its cheapness. Teaching is good or bad, according as the interest and personal effort of the teacher is induced to make it the former and not the latter. The cheapest teaching may be, in most cases, and under proper conditions will be in all cases, that bought in the dearest market. That is to say, it is self-evident that the great city schools, which are liberal and not niggardly as a rule, as a rule purchase the best work in the profession.

Does this mean that we are to urge our school-trustee readers to make an effort to raise artificially the teachers' salaries? By no means. For it would be equally false political economy to attempt to change the balance of demand and supply. The teacher's salary will be exactly in proportion to the value set on education, and the degree to which the trustees and the section are ambitious for their children's advancement. Let them weigh fully the fact that the teacher's services are worth more to their children in the present and the future than any other necessary for which our people, poor as a rule, pay out their hard-earned dollars. Then let them state in their advertisement what they are able to give. They will thus deal fairly with the teacher, and will deserve to secure the best labor available in the market, *at the price which they are able to give.* But there is a device very current just now which attempts to disturb the balance of demand and supply, by seeking to establish an underhand competition among teachers. It is this. At the present season, when charity and good-will are "on the cards"—the Christmas cards at least—we frequently see advertisements in the papers ending "Please state salary required." The object of this is to make teachers *underbid* each other, and thus artificially lower the market value of their labor. It is most unfair to the teachers, who are thus made to act as agents in cheapening each other's work. It is still more injurious to the true interests of the school section, by offering such a low salary, to which no one could object if no larger one could be afforded, but an *artificially* low salary, the result not of legitimate competition in open market, but of a hole-and-corner process of underselling, discreditable to all who engage in it. If trustees can only give $200 a year, let them say so, and get the best value the profession, in open competition, offers for that price. But to attempt to gain popularity in the school section, by reducing this $200 to $150, or by securing (for a time) a teacher, the market value of whose labor is $300 for their $200, is sure to react injuriously on the *school* and the *scholars*—the true interests concerned—by ignoring which vulgar stinginess, like vaulting ambition, "overleaps itself."

POLITICAL EDUCATIONISTS.

It has not been the custom of this journal to lend its columns for the furtherance of any individual interests, still less for the discussion of personal quarrels. But when it has unfortunately happened that a newspaper, eminent for literary ability, has fallen so far under the influence of a clique as to attack, in season and out of season, the Minister of Education, the Central Committee, and two of the ablest and most respected of Canadian men of letters connected with education, it becomes the duty of this journal, in the interests of the teaching profession which it represents, for once to depart from its rule of not paying the compliment of notice to what is nothing more than the merest and most baseless slander. To say that the Minister of Education is incompetent or discourteous, is slander. To call the Central Committee "a ring," to talk of its "abominations," to say that it deserves only to be swept away, is slander, and slander wanting the piquancy of slang or the point of sarcasm.

The *Mail* has for the last six months been incessant in its attacks on the Education Department; it has raked up every old grievance, and built up on the shallow foundation that

certain members of the Central Committee, are also the authors of School Manuals, a superstructure of denunciation which is so much in excess of the ground it rests on, as to show that all this assumption of interest in Education is only the sorry political trick of mud-throwing at opponents whom it cannot otherwise injure. We will examine the grounds on which it justifies its remarkable bursts of rhetoric—"abominations," "ring of conspirators," and other such expressions scarcely compatible with the dignity of a first-class journal, and in the present instance only justifiable on the maxim of the French philosopher who said "Mentons, mentons, il y a restera toujours."

Well, then, the accusation when put into plain words amounts to this: some of the Central Committee have written books. It has hitherto been the cue of the *Mail* to decry the quality of the books in question. But that can hardly be done any longer in the face of the fact that of late months these Manuals have received the emphatic approval of all the leading educational journals and many leading educators in Great Britain and in America, and that they have been republished again and again in several cities in the States. The *Mail's* entire scheme for reconstructing the Department hinges on its claim that no author of a school manual is to be a member of the Advisory Committee, for it suggests that the Central Committee be swept away, and replaced by something very like the old Council of Public Instruction, with Mr. Goldwin Smith, and others not named, as members. But this self-denying ordinance would exclude Mr. Goldwin Smith himself, who was a member of the Council of Public Instruction after he had published his Lectures on History. Cowper's Task will soon be one of the text books for examination, and we should be sorry indeed that the virulence of political animus should force on the Education Department an arbitrary rule which would deprive that Department of the right to select as member of an advisory body such a man as Mr. Goldwin Smith, merely because he is the author of one of the best aids to understanding the Task which the student could employ, his admirable Life of Cowper.

HIGH SCHOOL ADVERTISING.

We are glad to acknowledge the receipt of several letters from masters in Collegiate Institutes and High Schools and from others, heartily endorsing the views expressed in the November and December numbers of the JOURNAL concerning the system of advertising practised by certain Principals, especially by the Principal of Hamilton Collegiate Institute. The following quotation from a letter sent by the Principal of a Collegiate Institute fairly represents the opinions of others who have written to us:—"I am satisfied the course Hamilton Collegiate Institute has taken in inducing students to leave parts of the province where there are good schools, is causing a great deal of dissatisfaction among many of the masters of institutes and schools. You could advocate no more popular views than those you have lately expressed in the JOURNAL, and I shall have much pleasure in doing what I can in January to get up a large club in this county. The tactics which some are pursuing in drawing students are in my judgment *infra dig.*, and will do a great deal of harm if teachers do not frown down such as entirely unprofessional." We do not object to announcements of the dates of opening schools, with a statement of the names of the masters in the various departments, fees charged, etc., but protest most earnestly against puffing circulars intended to give the school a fictitious reputation, and mislead intending students, who are often induced to incur large expenses by leaving home to attend an institution which cannot give them so thorough a training as the High School or Collegiate Institute near home. Perhaps the most unfair method of trying to undermine other schools, and gather students from the districts of fellow-teachers, is the issuing of a "magazine," so that inexperienced young people may accept the puffs given in it as the opinion of "that mysterious personage," the editor. We are glad to know that such advertising is now pretty generally understood, and that high school masters are not likely to continue to aid in securing the upbuilding of any one school at their own expense. We insert in another column a letter on this subject from "A Teacher," whose experience is feelingly related, and refer our readers to the report of the St. Thomas Institute for further confirmation of our views.

CO-EDUCATION AND A COLLEGE FOR LADIES.

On this most interesting question much may be urged upon either side. It is a pressing one, of immediate practical interest, and our columns will be open to letters on either side, although we do not wish to commit this journal to a decision which might prove hasty. As Mr. Mulvany has said, in a letter in advocacy of co-education in our present issue, all interested in female education owe a debt of gratitude to the President of the University for having some time ago delivered a course of very interesting lectures on the subject, chiefly, however, to the ladies of the wealthier class in Toronto. The opinions of such a man are worth mature consideration—they are well expressed in a paper in the *Canadian Journal* of November, 1869, well deserving of consideration just now, some portions of which we hope to submit to our readers, as an aid to their judgment on the subject. In the course of this paper, Dr. Wilson lays the greatest stress on the need of a Ladies' College. In the December CANADA SCHOOL JOURNAL we offered a solution of the difficulty which had not been put forward in any other journal, that the Upper Canada College should be utilized as a Ladies' College for the Province. This would meet all the requirements of the case. The University, we are confident, with the full and willing co-operation of one so forward in every good work as its President, would do all strictly University work for the Ladies' College, such as holding examinations and granting degrees—that of Lady Bachelor not of necessity connoting celibacy. The suggestion thus made with regard to Upper Canada College, we regard as one of great practical value. It gave us pleasure to see a similar proposal in the January *Bystander*.

A GOOD PROFESSIONAL JOURNAL A NECESSITY TO THE TEACHER.

This vitally important truth is put forward with as much force as literary merit in the following article, which we extract from a New England school journal:

There are thousands of teachers in our country,—too many of them in the most cultivated centres of school-life,—who are destined to failure from the narrowness of their professional outlook. They read no book on the art of instruction; they neglect the study that keeps the mind alive; they have money enough for social entertainments and personal adornment, but not a cent for an educational journal. They are living in almost complete ignorance of the great stir in the school-life of the land. Now and then, through the daily paper or an accidental collision with a rough critic, they learn that there is a great deal of fault found with the teachers, and a tremendous hubbub over the schools. But all this is treated like a thunderstorm, or any disagreeable state of the elements,—simply as a warning to get indoors, close the shutters, make yourself comfortable, and let things rage outside. Too many of our young women-teachers who have excellent stuff in them, and are capable of a vigorous push for self-culture and true professional success, are now suffering from this narrowness of outlook. They are putting on fine airs of personal dignity in the face of this storm of criticism, and treating all public exception to their work as a personal affront to themselves. We know many a high-strung and really charming young schoolma'am who puts the public, by whose favor she stands in the school-room and by whose money she lives, on the same footing as the forward young gentleman who pushes his attentions freely, or ventures on a remark not flattering to her personal pride. The spectacle of a spirited young lady in the teacher's desk affecting to snub the towu or city whose public official she is, shirking the institute and the convention, too busy about her own private affairs to read professional books, or even to join a club that subscribes for an educational paper, is not inspiring.

The thing that should be done by at least a hundred thousand American teachers, this month, is to subscribe for a good educational journal. There they will learn what the superior part of the American people are saying about them and their schools. They will see there against what odds the friends of the best education are contending, and realize how many unfriendly tendencies are conspiring to block the wheels of popular intelligence and stay the coming of new light to the republic. There they will see their own weakness, even the most unpleasant qualities of their own personality, reflected in a mirror that is their best friend in revealing them as they are. They will find there the heartiest and the most thoughtful and delicate recognition of their merits—a hand stretched out as they are about to sink in the slough of despond—a word of good cheer for a dark day—a tender whisper of consolation for a hidden sorrow—a friend that will come to them every week, or month, and lift them out of the narrowness of the present into an ideal realm of aspiration and cheerful hope. Many a teacher owes her awakening to a new professional life, and her final achievement of genuine success to the few dollars she was persuaded to invest in educational journals. No little mistress is too poor or obscure, no great master is too busy or famous, to afford to dispense with such a mirror of the educational world of to-day. Begin the school-year by investing in this mirror, and study yourself in it every morning and evening as the days go on.

UPPER CANADA COLLEGE.

A very general opinion is expressed by High School supporters that it is difficult to see on what grounds, other than the merest sentiment, Upper Canada College is to be maintained at the public expense in the face of the indisputable fact that better work is done at the High Schools throughout the Province. As to the argument put forward in some quarters that it is expedient to maintain it as a school for those boys "of the upper class" who would otherwise be sent to school in England, that is only calling in Snobbery to defend Injustice. We want no "schools for the upper classes" maintained at the expense of this Province. If "the upper class" want such a school, let them pay for it themselves. But the fact of it is, as has been shown in a trenchant article in the current *Bystander*, the English aristocratic school cannot be reproduced here. Its peculiar faults, among which Mr. Goldwin Smith enumerates idleness and extravagance—he might have added cynical morals and subserviency to rank—are the very faults most objectionable in Canadian life. It seems to be the belief of those best qualified to judge, that Upper Canada College cannot be tolerated except, as we suggest, it be utilized in the very capacity to which it is exactly suited—as a Ladies' College for Ontario.

"EDUCATION."

It is an evidence of the increased attention given to the development of the science of education, that an international magazine has been established by Mr. Thomas W. Biknell, of Boston, bearing the title "Education," and having for its contributors nearly every living educational writer of note. The two numbers already issued are volumes of great value, and contain articles written by men eminent in their departments on most of the great educational questions of the day.

We hope that every teachers' association in Canada will subscribe for a copy, and that many Canadian teachers will realize how greatly it will be to their advantage to read this magazine. Even financially, to look at the question from no higher standpoint, we are convinced that teachers will find themselves improved by it. It costs four dollars per annum, but any teacher who reads it carefully will increase his "market value" to a much greater extent than four dollars a year. Teachers are short-sighted generally in this particular, as there is no other field of labor in which outlay made in improving the ability to do good work is so quickly or so largely repaid.

Mr. Bicknell is deserving of encouragement in his new enterprise, and we advise our readers to secure a sample copy of *Education*.

NEWSPAPER CRITICISM ON SCHOOLS.

The Thornbury *Standard* has an excellent editorial on the Thornbury and Clarksburg schools, giving an account of a visit to those institutions by the editor. The article is sensible, and has the great merit of being critical without puffing. A word in season is addressed to the School Trustees on the evil of frequent change of teachers. It were devoutly to be wished that the journals of Canada would more frequently make editorial comment on educational matters. Much good would be effected—in particular the influence of the press as one of our greatest moral agencies would be strengthened by its criticism of the one public question which is outside the

demoralizing associations of party politics. It is our intention to keep record of the course taken on this subject by our contemporaries. In contrast to the judicious criticism of the Thornbury *Standard*, is the too intrepid utterance of the Lindsay *Post*, a case of "editors rushing in where trustees fear to tread," which has brought on the Lindsay suite no less than four libel suits at $5,000 each! A great deal worse than the Lindsay *Post*, which at least has the courage of its opinions, is the St. Mary's *Journal*, whose editor points against the poor teachers who have no libel suit remedy to resort to, an attack worse than any libel, on that most vulnerable point, the pocket. The St. Mary's *Journal* actually censures the good town of Mitchell for paying "*too good salaries* to teachers!" The *Journal* imputes it as blame to the Mitchell trustees that only two of the Mitchell teachers are paid less than $200 a year." The editor of the St. Mary's *Journal* seems to set a particularly small value on education. He might remember that it was a cheap school system that produced Mr. Squeers and Dotheboys Hall.

The Bowmanville *Statesman* of November 19th has a good leading article on the present condition of the Public and High Schools of that town. It has some rather trenchant criticism of the work done by the Kingston High Schools, which, according to the *Statesman*, is inferior to that of the Bowmanville institutions. If this be so, better things ought to be expected from a High School which has liberal money grants, and the respectable city population of Kingston to draw on for support.

SHOULD ABSENTEES BE SUSPENDED?

The Supreme Court in the United States has reversed a decision of a Circuit Court against the Jefferson City School Board, which had suspended a scholar absent for six half days in four consecutive weeks. The Court disposed of the fallacy that truancy is injurious only to the truant, and of the equally fallacious assumption that a right to be absent results from the right to be present in school. Every child has a right to attend the school. "This is true; but this right of attending school necessarily requires, when the school is joined, and whilst such attendance continues, a submission to the regulations of the school. Suppose rule 11 be inverted, and instead of reading as it now stands, should read thus: 'Any pupil is at liberty to go a fishing during school hours, and be absent a half a day or a whole day, and as many days as he pleases, provided he conducts himself decently when in attendance on school.'"

NIGHT SCHOOLS AND MECHANICS' INSTITUTES.—We are glad to see, by the large posters inviting attention to the subject, that night schools are being established in Toronto during the winter. These will supplement the day work of the public schools, and do something not only to supply educational facilities for those who cannot attend during the day, but for those, no inconsiderable class, for whom there is not room in the existing school buildings. It were to be wished that the Mechanics' Institutes, now that this work is to be taken off their hands, would turn their energies into the direction of industrial classes. A vast field of usefulness is there open for them.—*Exchange.*

—The Right Hon. A. Mundella, M.P., the Minister of Education in Great Britain, is fulfilling the arduous duties of his position in a way that merits the approval of all parties. He has lately travelled in Europe with a view of investigating the best systems of education. The following remarks, taken from an address recently made before the Mechanics' Institute, at Kingsley (Yorkshire), will be of interest to our readers. He said:

They had now direct compulsion established for the whole of the United Kingdom, and although the Act did not come into operation until the 1st of January, it had been adopted already by the whole population of England and Wales within one million. He had no doubt, without the least pressure from the Education Department, that on the 1st January, 1881, the whole population of England and Wales would be under compulsion. (Cheers.) If there was any complaint of the hardship of the Education Act, it arose when the child came of age to work and could not pass the necessary standard.

The factory employers and parents present should bear in mind that British children had a shorter school life allowed them than any other children in Europe, where there was anything like a compulsory system. In Switzerland, no child could leave school to work until he was thirteen years of age; in Bavaria, also, the age was thirteen. In Prussia the half-time system began at twelve years, continued to fourteen years, and then it was compulsory, if required, for two or three years longer, if necessary up to seventeen years, for six or eight hours a week; it might be in the night, but it must be continued until the standard was passed. It was most important to economise before everything the short school life of the English child.

Alluding to the controversy on the subject of voluntary and Board schools, he said he prayed that that might all come to an end. (Hear, hear.) There was enough for good men to do, to whatever sect or party they might belong, in rescuing the rising generation, without maintaining a bitter feud about which should do the work which had to be done. It was all the Masters' work; and he served best who served in the best spirit and threw his best energy into the work.

He wished that the School Boards should, as far as was consistent with the Acts of Parliament, have perfect freedom, and that they should be responsible rather more to the ratepayers, and rather less to the Education Department. It was for the ratepayers chiefly to decide how far the School Boards should carry out their various schemes.

In our School Board reports of Keighley and Huddersfield next week we shall give longer extracts from the right hon. gentleman's speeches.

—When on the point of going to press, rumours have reached us that several suits are being instituted against the Hamilton Collegiate Institute for non-fulfilment of promises as to money payment—promises put forward in the advertisements of the Hamilton Institute, to which allusion has been made in our leading articles. We have received a number of letters from teachers on this subject which are too late for this issue, but will be published in the February number of the SCHOOL JOURNAL. One such letter from a teacher we print in the present issue, and we are in a position to state that the editors of this paper have during the last few days received visits from High School teachers of the highest respectability, who have afforded us fresh information on this subject which it will be our painful but inevitable duty to lay before our readers.

—The following extract from the Toronto *Mail* furnishes a very telling comment on the teaching of a deservedly popular clergyman of Toronto, with regard to moderate drinking as a remedy for intemperance, and to the reasoning of an able writer in the December number of the *Canadian Monthly*, who endeavors to support the same platform. Here is a case of what may be called "Moderate Drinking on Principle," and of its results. The Public Schools in England are now, though in a tentative manner, beginning to teach temperance principles. It is the intention of the CANADA SCHOOL JOURNAL not to let a number be issued without urging, with what force of utterance is given to it, the duty of the Education Department to make distinct and uncompromising temperance teaching, with clear information as to the physical as well as moral evils of strong drink as part of the programme in every public school. We ask the special attention of teachers to the following extract, as a story which points a vitally important moral:

"Miss Degrew was sent to jail at Williamsburg as a habitual drunkard. The prisoner was formerly active in her efforts to reform unfortunate women, and acquired a taste for liquor in attempting to show the latter how it could be used without being abused."

—Toronto is cavilled at by certain journals among our exchanges for the honors bestowed on Hanlan, the *Bystander*, strangely enough, leading the chorus against a practice of rewarding athletic prowess which was held in honour by the most cultured nations of antiquity. The CANADA SCHOOL JOURNAL values physical training as the complement of mental development, and endorses the action of those who think some recognition is due to him who has placed Canadian athletic skill foremost in the world. Thucydides or Plato would not have cavilled at "a mere oarsman."

—We are sorry to record the death of Mr. Mark Firth, the munificent benefactor of Sheffield, who, having made a large fortune in trade, devoted considerable portions of it, from time to time, to the advancement of education, religion, and good morals amongst the working classes. His many acts of munificence have been recorded in the papers within the last week: but the principal were the Firth Almshouses, costing 25,000*l.*; the Firth Park, 30,000*l.*; and the Firth College, estimated at 50,000*l.* at least. These splendid benefactions lend a great dignity to trade, and are a noble example to all classes.

Contributions and Correspondence.

LETTERS ON CO-EDUCATION.

No. I.

BY THE REV. CHARLES PELHAM MULVANY, M.A.

Certain opponents of co-education, who are apt to fancy that they can make hard words do duty for solid argument, are given to accusing its advocates of confusing two distinct things—the right of women to *equal* education, and the right of women to co-education with man. We do *not* confuse these things, but we regard them as *steps in the same direction.* Those who now shriek against co-education as unfeminine, immoral, etc., would on just the same grounds have shrieked against Ladies' Colleges, University Examinations and Degrees for Women, thirty years or so ago. They did shriek against co-education of boys and girls in the Public Schools on exactly the same pretext, that of "Morality in Danger." Now that co-education of boys and girls has been tried successfully, morality, strange to say, surviving the shock, it is plain enough that the main position of the opponents of co-education has been turned.

We regard every educational step gained for women as part of the same logical process—that leading to her complete mental and industrial emancipation. Some of those most hostile to co-education have done much to advance these previous steps to promoting that higher education of women, which is, in *their* way of looking at things, completely separable from co-education. No one is more entitled to the gratitude of all who value what has been gained in this way for woman's education than such men as the President of Toronto University, whose excellent lectures to the ladies of Toronto are still remembered with pleasure. It is a satisfaction also to know that Dr. Wilson never refused the use of a room for the free discussion of this subject. We would all wish to believe that the distinguished President's courtesy is equal to his literary fame. While fully acknowledging this, and at the risk of being thought a "stupid blunderer," I am free to confess that to my thought all that has hitherto been done to promote Female Education is part of a movement which tends in the direction of co-education. The opponents of the latter measure, I must confess, appear to my limited capacity to hold a position well illustrated by a "society" drawing in the last issue of *Punch*, in which a charming little girl tells her mamma that she wishes to adopt a profession, which, on enquiry, turns out to be that of a "Professional Beauty." That is the profession to which our opponents would in effect limit women.

No, we do not "confuse" two distinct things, but we look on every onward step as so much gained towards an end that we consider as the logical result of every advance from the convent and the gynæceum, and therefore those interested in the advance of liberal views as to the Education of Women will hail the reinforcement now given to the movement for granting the degrees of the English Universities to women, by the fact that the last published class-list of the University of Cambridge contains the names of three ladies who have passed the examination for B.A. In France, the liberal advance in this respect is evidenced by an article, as sparkling with Parisian gaiety as it is incisive in its logic, by M. Valbert, in the current *Revue des Deux Mondes.* Amid the irritation caused among large classes, and those the most cultured of French society, by the violent changes lately made in the school law, it is to be feared that true educational progress will for a time be checked. M. Valbert's essay, however, shows a liberal spirit.

On the other side of this question, a book of some merit has appeared—Miss Hardaker's "Ethics of Sex." This writer, herself no insufficient illustration of woman's literary ability, sets the laudable example of treating the subject on scientific grounds. She argues that as women, having inferior muscular power to men, are inferior in strength of body, so women, having (as can be proved) less average brain-volume, are necessarily inferior in intellectual strength. This seems cogent reasoning at first sight; its fallacy consists in the incompleteness of the induction. In order to test the matter fairly, we should see within some generation of co-education an energetic emancipation, enough to give scope to the law of heredity, might but equalize the brain-volume of the sexes.

But the question is seldom met by its opponents as the "Ethics of Sex" meets it, on grounds of argument; the usual weapons are the somewhat over-worked sarcasms against strong-minded women, and insinuations more or less broad as to the possible consequences to morality. As to the latter, a morality cannot be very healthy which cannot face the light and air. And the result of co-education in the public schools proves the converse. So does the co-education which is the rule in the public schools of Scotland. As to "unsexed girls," an expression whose wit seems to consist in its being wholly without intelligible meaning, if it is meant as an objection to a certain proportion of women being withdrawn from the necessity of contemplating matrimony as a profession, or the rearing of children as their sole vocation or duty to society, we reply that so far from being an evil, such a result must be regarded as a gain, if we consider the modern doctrines of political economy as to increase of population, and the need of making some provision for the female half of that increase in relation to the increasing complexity of social relations. As to the "morality" objection, which, in the face of facts, will, we suppose, be made to do duty again and again, we hold that the education of the sexes cannot be perfect till it is thoroughly in common, and that colleges for women, and women's literary clubs, though a step in the right direction do not meet the need. Not only do young men require the refining influence of intimate and constant association with women of the noblest type under the most favourable condition for intellectual evolution, but it is only by meeting young men as intellectual equals that girls can learn how to value adequately what is worthiest in manly character, can unlearn the sickly sentimental ideal of the "society" novels. The need of co-education is patent to any man who considers the mental attitude on social, literary, or philosophical questions of the average lady of his acquaintance. Is it too much to say that on such matters there is at present a gulf between the sexes—that one sex, in breadth of views and culture, is some years, say half a century, behind the other? The "History of the Wives of Men of Letters" among us, as a rule, illustrates only too uniformly the unhappiness caused by intellectual incompatibility. Literary biography has too few such pleasant pictures as the intellectual support give to Macaulay by his sisters, to Goethe by his friend, to Shelley by his wife.

But co-education is not an æsthetic or philosophic grievance, it is a very practical issue, for it is the necessary prelude to the opening to woman's industry of every career to which her powers are adequate; to the obtaining what at least every man who has daughters or sisters should wish, what the great Napoleon describes as the principal result of modern Progress, "*La cariere ouverte aux talens.*"

PHYSICAL TRAINING AND MORAL CULTURE IN SCHOOLS.

BY JOHN E. BRYANT, M.A.

A paper read before the Teachers of the County of Durham, and published by request of the Association.

Nothing, perhaps, has been more generally agreed to among educationists than that education to be complete should be threefold, that is, should embrace intellectual education, physical education, and moral education. But though so generally admitted is this opinion in theory, it s ems to have but little influence in directing the course of practical education, or that education which is regulated by law, supported by taxes given by authorized teachers, and pursued by our students in our schools. Although upon the correct working of the organs of our bodies, their due performance of their proper functions, more than upon anything else depends our happiness; though our capacities for enjoyment, our abilities for work, the vigor and activity of our brains, the quality and capacity of our minds, the very duration of our lives, depend upon the equal and moral development of the different parts of our physical constitutions, and their preservation in such adjustment as is necessary for the due discharge of their functions, in short upon our perfect health both until maturity is reached, and during the continuance of our lives, yet but very little, if any, of our regular education is devoted either to the practical exercises of the organs of our bodies, so that they may become best fitted to do their work, or to such a study of the human organism, and of the laws which govern it, as will enable us to live in any way conformable to these laws. The actual state of affairs is this, that not only is a study of the constitution of the human body in no way a part of the school curriculum, not only are the laws which relate to the working and preservation of the human frame untaught and their very existence ignored, not only are those general laws by which nature regulates the healthy growth and continued existence of *all* life entirely disregarded, not only is a study of the simplest laws of nature unthought of, and even the simplest and most evident, and for that reason the most important, facts of nature left unnoticed (with the exception perhaps of such physical geography as is found in our text-books), * but also our system of education does not stop here in its one-sidedness; for while we occupy ourselves, as we do, with one phase of education, that is, intellectual culture, we do so often in direct violation of those laws which pertain to our physical well-being; and our intellectual culture is gained at *the expense of physical debilitation, bodily hurt, a partial development* or altogether wrong development of the organs of our bodies, resulting in bodily weakness, organic incapacity or physical failure. Now this is a grave charge to bring against a system of education as much lauded as is ours, but there are two things that must be taken into account when the charge is made. First, that this opinion concerning the deficiency and one-sidedness of current education is not only shared but strenuously advanced by some of the wisest and best thinkers of the day, among whom it will be sufficient to name Mr. Herbert Spencer and Professor Huxley; and second, that while the charge is made, it is made with feelings of regret rather than as blaming any one, even our educational legislators and authorities, for this state of affairs. For it is not to be expected that any legislation will be useful which goes far in advance of public sentiment and desire, or that those who have the care of our educational system can be expected to demand or establish any large departure from regularly received and recognized methods and courses of instruction. Their principal duty is to see that such methods as the public desires to have pursued, and such courses as the public sentiment demands, are maintained with the utmost possible excellence. But still the fact remains, as a sad lack in our educational system—a lack which is having its result in a nation of people who are dying before their time, and who when living are incapacitated from doing the full measure of a man's or woman's work by reason of possessing frail constitutions and physical organisms which are a prey to every sort of disease, that physical education—by which I do not mean simply a course of gymnastics, no matter how scientifically devised, although this is

* I am, of course, aware, that in the authorized "course of study" for Public Schools, Hygiene is set down as a subject to be taught to the fourth, fifth, and sixth classes. But no text-book is prescribed, and the subject is to be taught by lectures. Partly on account of general indifference to the matter, partly on account of lack of knowledge on the part of the teacher, but principally on account of the demand of other subjects in order to meet the requirements of examinations and inspections, the regulation as to teaching Hygiene, in the vast majority of schools, is nothing more than a dead letter. A somewhat simil r remark holds good with Chemistry, which is the single branch of natural science prescr bed for Public Schools. Even this branch is opt onal. In High Schools of course chemistry is taught; in many instances quite thoroughly. But my remarks have a special reference to Public Schools.

important, but an education which embraces a knowledge of the human body, and of the laws which govern its growth and development, a knowledge of the structure and functions of its organs, and of the laws which relate to their healthy preservation and repair, as well as that thorough gymnastic drill which would secure a correct development of bone and sinew and muscle and nerve, their due relation and proportion one to another, and their maintenance in strength and vigor—that this physical education finds no part in our system of education, and our people grow up with no real or scientific knowledge of that which most concerns them and their offspring—the laws of life and especially of human life—or if they do possess a knowledge, it is but such as they may chance to have picked up after they have left school, with their minds unfitted to arrange and set a value upon what facts they do observe by reason of an entire absence of scientific training when at school. Now while this state of affairs is to be lamented, yet our regret should be not without hope; nay more, our very recognition of this want in the training of our people should but impel us to set to work and remedy matters as soon as possible. And we, educationists of Canada ought to feel our professional pride urging us in this direction., The study of value in general and of life in general, and thus in duecourse and as a proper sequence the study of human nature and human life, is part of the elementary work of the German system; the people, and especially the leading educationists of England, are demanding—I shall not say the introduction, but the extension of elementary physical science teaching there; the American system of education also recognizes its importance, and much has been done by American educationists towards establishing it; and if we wish for our national system a first rank, and that it should retain its place among the educational systems of nations, we must take care that the study of nature be not neglected here; and that our children in schools obtain a training in habits of observation and perception, and in methods of reasoning from observed facts and sequences to general laws, that thus they may grow up with powers of observation and generalization so quickened and strengthened that they may be able to avail themselves of those sources of help which nature places all around us, and, too, be enabled to ally themselves with the forces and laws of nature, and thus be stronger, wiser, and better men and women. This plan for elementary scientific training ought to be put forth by every ardent educationist in the country, until it be granted; and among the many arguments in its favor—and they are certainly many and weighty—I do not think this one ought to be overlooked which I am now trying to set forth, that to secure a just proportion of wise physical education, which is certainly very desirable, and as certainly does not now exist, there must be a demand for it, and this demand will not come from a people insufficiently educated as ours are in scientific methods of observation and thought; that to secure this demand there must be a general looking up, or elevation, or perhaps I should say a general building up of scientific knowledge and culture, and that this can be done only by a beginning at the beginning, a wise laying of the foundations, that is, by a wise and efficient system of elementary science training in our elementary schools. And here let us say a word or two as to the *practicability* of elementary scientific training. There are several opinions prevalent as to the inadvisability of attempting elementary scientific training, as for example that it is impossible with young children such as we have at our schools; that it would be by far too costly; that science cannot be taught rationally in elementary schools, and that since but a smattering of science could be obtained were it attempted, it therefore had better not be taught at all; that it is not practical, and but of little value, and hence ought not to occupy any portion of the already well-engrossed time of our students; and lastly, if taught thoroughly, it would crowd out subjects more important than it, or so diminish the time to be given them that they could not be studied properly. Now I do not know but that the real truth as to elementary scientific education lies in statements completely contradictory of these. It is not the purpose of this paper to discuss this matter fully, but I think it is capable of proof both *a priori* and from experience, that at no time of life can the scientific method be so quickly gained and thoroughly made a mental habit as in youth; in fact, it may be said that the scientific method is but the inquiring curious spirit of childhood developed, strengthened and systematized. Again, it can be easily proven that proper scientific training, education which is really worth being called scientific, is, in its elementary stages, as little expensive as other kinds, costing no more than the price that must be paid for the intelligence of the teacher; for nature's laboratory and museum are ever open, and to her professors and students, and those who worthily serve her, she yields up her treasures with lavish hands. But, perhaps, the most strenuous opposition to scientific education comes from those who advance the opinion that science cannot be taught rationally in elementary schools, and that as nothing but a mere smattering of any science can be obtained at school, it is far better that none should be attempted. This objection is as baseless as any, though it has some show of reason for its existence in the fact that very much of the elementary science which has been taught has been taught in a manner the very reverse of scientific, and that because too much has been attempted, anything like scientific training has been impossible. And yet, I cannot but think that the knowledge of science gained in this unscientific way—that is, at second-hand, and without personal observation, verification and generalization—is of much more value as a mental product than much of that which is now gained at school. But if the acquisition of scientific knowledge were made in a scientific way—that is, by direct questioning of nature, by personal investigation, by observation of facts and sequences, and the establishment of laws in accordance with these—then not only would the mind become one vast storehouse of facts which would be of incalculable benefit in the battle of life, and which now one has to pick up in the most empiric way possible, but it would be exercised and made skilful in the only kind of reasoning it is permitted by the circumstances of existence to set much value upon in actual life, a quick and accurate determination of the relation existing between events which are connected in order of occurrence, or, as we popularly say, of the relation of effects to causes. That is, as so much of our well-being depends upon our ability to determine what may be expected to happen in any given set of circumstances, an early training in this matter of scrutinizing the objects and processes of nature would be of incalculable advantage. An elementary and when I say an elementary, I in no way mean an *unscientific* knowledge of, say Botany, or Physiology, or Physical Geography, or of Natural History, can be acquired by children from eight to thirteen years of age, that would inspire them with the keenest interest in nature all through life, that would include a stock of facts, and develop a power of questioning nature and discovering her secrets and her laws that would result in a manhood of intellectual activity and skill. The objections that scientific knowledge, even elementary scientific knowledge, can have no practical value, will have but little weight with those who reflect that the vast material and intellectual progress of the present age is due to scientific study and research, and that, should this progress continue, it must be through a continuation of scientific enquiry, which can only be maintained when proper elementary scientific education supports it; and that for the world even to retain its present degree of advancement, there must be thorough training in every branch of physical science. It cannot then be said that any subjects of the

school curriculum, with the exception of the purely basal subjects, reading, writing, and simple computation, can be reckoned as more important than those which are concerned with the study of nature; and therefore, as things now are, the true complaint is, not that other subjects are likely to be crowded out by elementary science, but that elementary science is already crowded out by other subjects less useful.

Thus we have seen that of the three branches of education, intellectual, physical and moral, intellectual education receives considerable, let us say the main attention; but that not only is physical education unattended to in the matter of scientific drill and exercise of the body, so that it may properly develop and reach a state of healthy maturity, and be maintained therein, but also that on account of defective scientific education, physical education in its *true* sense is impossible—that is, an education embracing a knowledge of the structure and functions of the body, and of what is necessary for its maintenance in healthful activity.

It remains then for us to consider how the third branch of education, that is, *moral* education, fares in our educational system. And here I am afraid that at first sight we should say that our system is as deficient in this respect as it is in the matter of physical education. For the part in our school curriculum which is allotted to moral education is but very little. In fact, in the Public School programme it is especially excepted, and in the High School programme no mention is made of the subject at all. In the lists of authorized text-books for Public and High Schools, no work on Morals is provided. And yet it must be said that the necessity of moral education is not altogether overlooked. In the administration of the school system care is taken that only teachers of good moral character are employed. In a minute for the guidance of Public School teachers it is said that "they are expected to use their influence with their pupils in the subject of morals, as in all others, for their permanent good." In the single lecture on moral duties which is prescribed to be delivered to intending teachers at County Model Schools, the student is told that as a teacher he should cultivate gentleness and forbearance among his pupils; that he should frown down rudeness, boisterousness and quarrelling; that he should not allow the strong to impose upon the weak, nor that any pupil should be ridiculed on account of natural infirmity; that he should cultivate respect for the aged, sympathy with the infirm or unfortunate, and a generous regard for each other's rights; that he should himself be a pattern of gentleness, kindness, forbearance and true politeness; in fine, that he should be a man and a gentleman in every sense of the word. However, in the subjects of study for the students who intend to present themselves for second-class and third-class certificates, and the prescribed subjects of lectures to be delivered to students-in-training at the Normal Schools, morals is not found. In the working of the school system, then, it will be seen that whereas mora education is not altogether neglected, the steps taken to secure it are preventive and cautionary rather than operative; that they are negative rather than positive; that care is taken that immorality shall not be taught either by precept or by example, but that not much is done towards having morality taught. The only part which that which, for want of a better term, I may call *didactic morality*, has in the system, is the single lecture delivered to teachers-in-training of the third class at the County Model Schools, and which, because it is the only part, I have copied out *in extenso*. But being a single lecture, one out of many delivered in six weeks, amid a host of new and strange matters, it is not to be wondered at if it made no deep impression. But though, as I have said before, at first sight, we might be disposed to criticize very adversely a national system which provides so little, does so little, or to speak more truly, is so wanting in the matter of moral training, yet there are considerations which make us soften this criticism, if not withdraw it altogether. And first it must be noticed that our public schools are *day* schools, and not schools of residence; and hence, and also because of the Saturday and Sunday holidays, the *home* life of pupils does not come under the cognizance of teachers; and thus, since it is in the greater freedom of the house, when children are thrown upon themselves, when their wills are less restrained, and their impulses more easily gratified, in that the regular discipline which school organization enforced is relaxed or wanting, that moral forces are most needed, and conduct becomes a matter of voluntary effort, and thus may have all the various shades of quality from morally excellent to morally depraved, moral education as a part of regular school work is omitted, and the duty of inculcating moral truths, and of securing moral conduct by enforcing moral discipline, is relegated to parents. So that on this consideration, it is not to be imputed to our system as a fault, that little time is required to be devoted to moral education in schools.

But there is a second consideration, which may justify our educational authorities in not imposing upon our system moral education as a part of school work; though at first sight the reason may not seem a valid one. But the truth is, that it is difficult if not impossible to frame a formal system or theory of morals that will satisfy the different schools of philosophy and religion. What is the criterion of a moral act, despite our attainments in morality, is still a vexed question. Whether by a divine power we have had revealed to us what is wrong and what is right, wrong and right being arbitrary determinations of this divine will and therefore independent of our reason; whether the goodness of an act depends upon its tendency to fulfil the pleasure and conform to the will of a divine being, our reason thus being acknowledged necessary to determine the fitness of the act to meet this end; whether an innate moral sense exists which has the power of determining the moral quality of an act, as the eye has the power of discerning the forms and colours of objects, and the ear the power of distinguishing the qualities of sounds,—what this moral sense approves being necessarily what Deity commands, or otherwise Deity could not be thought good and just; whether there is an eternal and intrinsic *fitness* in the things considered as right and a like *unfitness* in the wrong, which the reason of all rational beings, divine and created, must accurately discern; whether, as Adam Smith maintained, the criterion of right is the sympathetic feeling of the impartial and well-informed spectator, thus making morality a positive institution depending upon a consensus of opinion among the good and enlightened of a community; or whether, as Paley held, "virtue is the doing good to mankind in obedience to the will of God, for the sake of everlasting happiness," which may be designated the modern theory of Christian morals; or whether morality is founded upon a regard for the happiness of the greatest number, which is the utilitarian theory; and which in the statement that conduct is good when it secures or tends to secure in self, in offspring, and in fellow-men the maximum quantity of life and the maximum quantity of happiness in life, is the ethical theory propounded by the last great writer on morals, Mr. Herbert Spencer; to sum up, whether one or other of these different theories of morals is to be accepted, or can be rationally established, or ought to receive more than a curious attention, is a question which, so far from being really settled, was probably never so vexed as at the present day. And even going farther, and admitting the authority of what is called Christian ethics, it is equally hard to frame a theory of morals which would obtain universal sanction among Christians. For if there is one point in ethics which is established it is, that when an act merits punishment it is immoral, and when the neglect of an action merits punishment the action is

obligatory—that is, morally necessary to be done. But even in Christian morals the nature and extent of the punishment due to the neglect of a moral act, or the commission of an immoral act, and hence the degree of the morality or immorality of the act, are questions far from being decided. And taking divine revelation as the basis of determining the moral quality of acts, it is impossible to make any distinction between acts which are, as we say, morally obligatory, and those which are imposed by religion, that is, between moral duties and religious duties, for no distinction exists between them, divine will being the basis of the obligations of the one class as of the other; but the moment we enter the region of religious duties we are where a logical and generally admittable doctrine is impossible; we are in the region of endless controversy and difference of opinion. So that if it has been found impossible to attempt the teaching of Christian doctrine in our public schools—if it has been found impossible to engraft religious education upon our national system, or, to speak more truly, to *retain* it as a cardinal element, or anything more than a nominal element in our public education, so it will be found equally impossible to frame a logical and generally admittable theory of morals for use in our public schools, in which pupils may be instructed with the same mental confidence as the teacher feels when he is teaching any branch of mathematical and physical science.

So that on account of the shortness of time of regular school occupation, the frequency of holidays, and the absence of home life, our school system does not demand the exposition of what may be called practical and experimental, as distinguished from doctrinal morality, and because of the uncertainty, or rather want of agreement as to the foundations of doctrinal morality, it, also, is not attempted. It should also be said, that were it possible to frame a theory of morals as logical as any one of the deductive sciences, say geometry, it would be impracticable to make any use of such a system in the school room; for to understand the moral quality of conduct as depending upon the greatest totality of life in self, in offspring, and in fellow-men, as in the modern scientific theory of ethics, or as depending upon its conformability to right reason, this reason also being in harmony with the divine will, as in the Christian theory of Dr. Cudworth, supposes a power of mental apprehension, a maturity of mind, which cannot possibly be expected in public schools.

The remainder of the paper will appear in our next issue.

THE SUPERANNUATION FUND.

BY C. H. ASHDOWN, SANDWICH, ONT.

That much dissatisfaction exists in the minds of many teachers respecting the Superannuation Fund, none will deny; but when the question is put, "Why are you dissatisfied?" the answer is frequently vague, illogical, and sometimes stupid. One objects to compulsory taxation, another would like to know where the money goes to, and a third "doesn't believe in it anyway." Upon further enquiry as to whether the objectors have looked into the matter, have investigated the facts and figures of the reports, have made themselves acquainted with the origin and history of the Superannuation Scheme, the replies go far to show that but little attention has been bestowed on the subject.

Again, on the other hand, the friends of superannuation are not better prepared for argument than their opponents. In a sort of general way, they feel it is a good thing to have some provision for old age, will favor you with platitudes about the laborer being worthy of his hire—the arduous duties of the teaching profession—inability to lay by for a rainy day, and four dollars a year not being much one way or the other; and that is nearly all they can say about the matter.

Feeling my own lack of information upon the Superannuation question, when called upon to express an opinion, I have availed myself of such material as I could command, and make bold to lay before my fellow-teachers the results of my investigation.

In 1844, Dr. Ryerson was appointed Superintendent of Education for Upper Canada, and in 1853, upon his recommendation, a grant of $2,000 was made by the Legislature in aid of teachers who had grown too old for the service. This grant was the first step towards forming a Superannuation Fund. In the next year, 1854, a bill was passed, the principal provisions of which were:—

First,—That all teachers desirous of availing themselves of the benefits of the fund should, from that time, subscribe to it at the rate of four dollars per annum.

Second,—That they should attain the age of sixty years, unless disabled earlier, before participating in the fund.

Third,—That upon the teacher retiring from the profession on account of age or ill-health, he should be paid at the rate of not more than six dollars per year for every year he had taught in Upper Canada; and

Fourth,—In the event of the fund for any year not being sufficient to pay at the rate of six dollars per year, then the fund was to be divided *pro rata* among those entitled to it.

And here we notice, the subscription was *not* compulsory. Let us see how it worked.

In 1860, six years after the passing of the bill, the number of teachers employed was 4281—male, 3100; female—1181. This would make the income to the fund for the year 1860, had male teachers only subscribed the four dollars each, $12,400; had all subscribed, the income would have amounted to $17,124. For the same year there were 150 recipients, their average length of service being twenty-one and a half years, representing 129—4, *i. e.*, $125 each, or an aggregate of $18,750. Now, what are the facts? With a grant of $4,000, the department had only $4,084, instead of $18,750, to divide between the 150 recipients, because the subscriptions for the year were only $450, less a refund of $101, leaving the net subscription to the fund $349, instead of $12,400, or $17,124. But perhaps the Report for 1867 will give a better showing; let us see. The number of teachers employed during the year 1867 was 4890, of whom 2849 were male, and 2041 female. In this year, had the males subscribed, the receipts would have been $11,396; had all subscribed, the income would have been $19,560. The number of pensioners for 1867 was 147, their average period of service, twenty-one and three-quarter years, representing $18,595. Had the $19,560 been subscribed, it would have left a balance of $965 for investment to the credit of the fund.

We now turn once more to the facts. The grant for this year was $4,500; the amount paid was $4,161, instead of $18,816; the subscription was $175, with a refund offset of $153, leaving the net subscription $22.

For the year 1868, the total number of teachers was 4,996, representing a subscription of $19,984. The recipients numbered 143, with an average service of twenty-one and a half years, representing an aggregate of $17,875, leaving $2,109 to the credit of the fund. The account for this year shows that only $5,957 was available instead of $17,875 called for; and the net subscription was $408, less $177 of refund, that is, $231.

From the evidence now given, every candid reader must be convinced that the Superannuation Fund, with a voluntary subscription basis, was a failure. The teachers in active service took little or no interest in the scheme, and the Legislature did not feel called upon to grant seventeen or eighteen thousand dollars in aid of the fund. The result was that men up in the "seventies" and

"eighties," who really needed help, men with their thirty or more years of service behind them, were in receipt of an annual pittance of $50 or $60. In his report for 1870, Dr. Ryerson says:—

"In reply to the question 'On what principle should this fund be supported?' we answer, on the principle already laid down in its establishment, that of the mutual co-operation of the teachers and the Government. This principle is one which commends itself to the judgment of teachers, and yet they have not carried it out. While the Government has generously contributed to the fund $4,000 per annum, and has even increased the fund, of late years, to $6,500 per annum, the teachers, as a body, have done—nothing. An isolated case, here and there, of an expectant claimant on the fund, does send in his four dollars a year, but the teachers, as a body, have failed to do their duty in the matter. Low salaries, selfishness, and a temporary interest in a profession which they did not mean to follow, have operated to produce this state of things. Now, however, the country is prosperous, salaries have been increased, the profession has been placed on a recognized footing, and it is right and proper for the Legislature which has thus afforded facilities to elevate the teaching profession, to see that the old, worn-out members of the profession shall be provided for, and not remain as an hindrance to progress."

A change was now decided upon, and in 1871 a clause was introduced, making the subscription compulsory on the part of male teachers. The results can best be presented in the following tabutabulated statement from the Reports and Public Accounts for 1872 and 1878, both years inclusive:

	Male Teachers	Estimated Subscript'n	Legislative Appropriat'n	Number of Recipients	Average. Age.	Average. Service	Amount. Paid	Amount. Refund'd
1872	2626	$10,504	$12,000	141	67	23	$11,942	$ 236
1873	2581	10,324	19,608	153	65	22	18,995	442
1874	2601	10,404	23,100	189	65	22	22,802	787
1875	2645	10,585	29,000	229	64	22	26,509	1,220
1876	2780	11,120	35,500	266	63	22	31,768	1,252
1877	3020	12,080	35,500	293	63	22	35,325	1,576
1878	3060	12,240	35,500	339	63	21	41,192	1,591
		$77,257	$190,208				$188,533	$7,104

I would call the attention of my readers to two points in the foregoing statement.

First,—The difference between the appropriation and the annual subscription. The aggregate appropriation for the seven years amounts to $190,208, while the total estimated subscription for the same time is $77,257, showing that $112,951, or an annual average of $16,136, was appropriated to this fund by the Legislature. And here I would correct a false impression generally entertained respecting the appropriation. Any of us, in turning to the Report, say for 1877, will find the appropriation was $35,500, and at once jump to the conclusion that this appropriation was made over and above the subscription received. But the Public Accounts show the Legislature is not quite so munificent as we, in our happy ignorance, give it credit for. In the receipts, $14,283 of subscription is acknowledged, and in the estimates, the appropriation of $35,500 is given, and the actual cost to the Government is $21,217 and not $35,500, as at first we might be led to suppose.

Second,—The refund account. This account shows (*a*) the amount returned to those retiring from the profession; (*b*) the amount returned to relatives of deceased teachers.

As the law stands at present, one-half of the amount he has paid in is remitted to any teacher upon his leaving the profession. And in the event of the death of any teacher in active service, the whole amount paid in by him is returned to his legal representative, with interest at the rate of 7 per cent. per annum. The refund account shows that $7,104, or an average of a thousand dollars a year, has been expended in this way. Some of the particulars of this expenditure are as follows:

Of the 1068 to whom money was repaid, 44, *i. e.*, 4 per cent., were representatives of deceased teachers; and of the $7,104 disbursed, $754, or 10 per cent. of the refund, was paid to them. To ten other special cases $635 was paid, leaving a balance of $5,715 to be divided among 1017 persons leaving the profession. The average period of teaching of this retiring 1017 was two and a half years, and they were enriched to the extent of $5.61 per pocket.

	50	of them	taught for	½ a year.
	222	"	"	1 year.
	235	"	"	2 years
	245	"	"	3 "
	145	"	"	4 "
	73	"	"	5 "
	35	"	"	6 "
	11	"	"	7 "
and	1	"	"	8 "

In my next paper I shall take up the question of "Payments to those under Sixty years of Age."

THE FAILURE OF FREE SCHOOLS.

BY DAVID ALLISON, LL.D.

Last month I referred incidentally to the severe arraignment of the Public School System, by Richard Grant White. My reference was to a much quoted article which appeared last July in the *New York Times*. The attack has been followed up by Mr. White, in a more elaborate, and, if possible, more illogical paper in the December number of the *North American Review*. The teachers of Canada, taught to regard organic provision for free public education as in the highest degree beneficent, may be interested to learn what so distinguished a *litterateur* as Mr. White can urge against systems of instruction in all main points analogous to their own. The renewed attack opens thus:

There is probably not one of those various social contrivances, political engines, or modes of common action, called institutions, which are regarded as characteristic of the United States, if not peculiar to them, in which the people of this country have placed more confidence or felt greater pride than its public school system. There is not one of them so unworthy of either confidence or pride; not one which has failed so completely to accomplish the end for which it was established. And the case is worse than that of mere failure; for the result has been deplorable, and threatens to be disastrous.

* * * * * * * * * * *

According to independent and competent evidence from all quarters, the mass of the pupils of these public schools are unable to read intelligently, to spell correctly, to write legibly, to describe understandingly the geography of their own country, or to do anything that reasonably well-educated children should do with ease. They cannot write a simple letter; they cannot do readily and with quick comprehension a simple sum in practical arithmetic. . . . As to such elementary education as is alike the foundation of all real higher education, and the *sine qua non* of successful life in this age, they are most of them in almost as helpless and barren a condition of mind as if they had never crossed the threshold of a school house.

These are stupendous charges, the more stupendous on account of the unqualified terms in which they are presented. One is nervously apprehensive while awaiting the revelation of evidence to sustain them. A careful sifting of this evidence is calculated, I am glad to say, to impart a decided sensation of relief to those anxiously concerned for the stability of free educational institutions. Its grants are,

1. A report on the schools of Norfolk County, Massachusetts, by a Mr. Walton. This report (which has attracted considerable attention) declares, seemingly with little or no qualification, that the scholars of fourteen years of age did not know how to read, write and cipher; that they could repeat pieces, parse, and spell in classes, rattle off rules in arithmetic and grammar, while they could not write correctly the shortest of letters, or go through the plainest of combinations. The word "scholar" was spelt in 230

different ways, "depot in 65, "whose" in 108, and "which" in 58. Out of 1,112 pupils, 859 spelled the adverb "too" incorrectly in their composition exercises. This was certainly not a good showing for the schools of Norfolk County, though a narrow basis on which to found a charge of failure against the educational institutions of a people of fifty millions. The argumentative force of this report is sought to be strengthened by reference to some reported statements of the Superintendent of Public Instruction of the State of New York in 1862 as to the ignorance of the teachers under his jurisdiction, and to an alleged deterioration in English scholarship on the part of candidates for the cadetship at West Point during the past twenty-five years. This is the direct proof in its entirety. It passes comprehension that a sane man, with a reputation to lose, should not only try to construct an argument out of such flimsy materials, but actually base upon that argument a wholesale sentence of condemnation. The report of a particular Superintendent, so long ago as 1862, should not count for much. The fact that the percentage of failures to pass the preliminary examination at West Point has been increasing of late, by no means warrants the conclusion that the general average of English scholarship has been lowered. A precisely opposite inference would on logical grounds be quite as warrantable. The whole matter of this charge was exhaustively considered at the annual meeting of the National Educational Association at Washington, in February, 1879, Hon. Mr. Garfield, M.C. (now President-elect), having directed attention thereto. In rebuttal of the charge of deterioration in the school work of the country as sustained by the facts of the West Point examinations, it was shown that the syllabus of requirements had been enlarged, that more rigid tests of scholarship had been applied, and that members of Congress (in whom resides the right of nominating candidates for admission at West Point) have been increasingly regardless of the intellectual qualifications of their nominees.

Mr. White's further points I will consider in another paper.

TEACHERS' INSTITUTES.*

BY A. MORTON, ESQ., PRESIDENT TEACHERS' ASSOCIATION, PEEL CO.

Ladies and Gentlemen, co-workers in Education:

I beg to tender you my hearty thanks for the kindly feelings evinced towards me, in the bestowal of the highest office in connection with your Association.

I feel that your President assumes a great responsibility. Upon him rests the duty of guarding against the danger of failure, and of directing its discussions so as to render your meetings attractive and profitable, by impressing upon all the members the necessity of a hearty, united and determined effort to make their meetings the means of imparting hints of the highest professional value, and thus gradually tending to the attainment by the members of very high professional skill.

I have chosen as the subject of my brief address "Teachers' Associations or Institutes," their object, benefits, and how they may be made a success. In Chapter III, Section I, of General Regulations, we find: "In each County or Inspectoral Division, a Teachers' Association shall be formed, the object of which shall be to read such papers and discuss matters having a practical bearing on the daily work of the school." And in Section V, we find: "The work of the Association shall be as practical as possible, and at every meeting, illustrative teaching of classes shall form a prominent part of the proceedings."

The ground is sufficiently large to embrace every subject of interest to the teacher in organization, discipline and practical teaching, which is calculated to fit him for the more efficient discharge of his professional work. I can scarcely conceive of any teacher, animated by a sincere desire of acquiring that professional knowledge which can alone place him in the foremost rank, leaving these meetings without feeling strengthened and encouraged to face the difficulties of the school-room, and without possessing a greater measure of confident assurance of ability to teach with greater profit during the coming term. We all know there are numberless difficulties that perplex the teacher, and which he is constantly obliged to encounter, and, if possible overcome. And where, it may be asked, can the teacher be more likely to gain the necessary knowledge to enable him successfully to meet and overcome these difficulties than in the Teachers' Association, where, by presenting these difficulties for solution, he obtains the enlightened views of his more experienced associates, catches their spirit, and is infused with new life and modes of thinking?

The teacher who expects to become eminent in his profession, must have the capacity, nay, must have a consciousness of *having* the capacity to grapple with these trials and difficulties, and successfully conquer them: for I hold that self-confidence is the only sure basis of success. And to the young teacher especially, what can be better adapted to supplement his inexperience than the hints and information which the more experienced of his profession are able and willing to impart: and thus, instead of following in the old beaten track which those who instructed him employed, he is able to reason from, and base his plans on what mature deliberation and lengthened experience have in the case of others proved most successful. He will thus be furnished with expedients for subduing the stubborn, restraining the disobedient, and animating the indolent to activity.

The following, from the pen of Samuel P. Bates, A.M., Deputy Superintendent of Common Schools, Pennsylvania, on the object and benefit of an Institute, is soap propriate that I take the liberty of quoting it:

"The teacher is brought into direct intercourse with his professional brethren, and is enabled to measure himself intellectually and professionally with others. Were he to remain isolated, knowing little of any one beyond his own neighborhood, he would naturally contract narrow and selfish views, and be filled with his own sufficiency. He has, perhaps, regarded himself as possessing superior attainments, and his own methods of teaching as infallible, while they may at the same time be very unphilosophic and injurious to the mental habits of his pupils. But, when he comes to the Institute, and is brought into contact with those of equal and of superior ability, he is enabled to make a more sober estimate of his capacities, and to expect there may be

——— 'sound things in heaven and earth,'
Not dreamed of in his philosophy.'

"He is brought into connection and close communion with earnest-minded, thinking teachers, who are accustomed to criticize the soundness of every view, and are only satisfied with *that* which bears the impress of truth.

"Nor is this intellectual acquaintance the only advantage of their coming together. They become acquainted socially. They are enabled to sympathize with each other, and to form intimate and lasting attachments. Refinement and culture exert their elevating influence upon the rough and the uncouth, the different natures are brought nearer to each other, and all are elevated in feelings, in manners and in sentiments.

"The Institute is an efficient school for young teachers to express their thoughts in public. It is the fault of many of them that they cannot think upon their legs; and hence cannot be successful in

*Read before the meeting of Teachers' Association, held in Brampton, Dec. 17th, 1880, and published at their request.

teaching what they know well enough, because they have not the power of talking it into their pupils, and making thought appear to others as it is felt by themselves. The extemporaneous discussions which call out the opinions of the members at the end of each subject, form a good exercise for the practical business of teaching. The habit of taking notes of every important fact or opinion expressed, and of reserving for future consideration what cannot be duly pondered at the time, is one of vast importance to the young teacher, and if persevered in, will, in a few years, be fruitful of surprising results: it will serve to establish the principle of passing judgment upon anything hastily, and of noting for future reflection and use, whatever may be met with, in a course of reading or observation, that is worthy of preservation. No lesson can be learned that will more conduce to accuracy of scholarship, or more effectively to richness of thought.

"Another important object subserved by Institutes is the opportunity they furnish of readily introducing into the practice of the profession, such new improvements as are made in the science and art of teaching. Were it not for these gatherings, it would require a long time for a new method to work its way into use among the isolated members of a profession so numerous as this. But through the agency of the Institute, a happy invention of proof, an abridged solution, an illustration, or a discovery of a new application of education spreads quickly. In this respect, it is a means of improvement more thoroughly organized and more practically effective than is possessed by the members of any other profession. It also makes the members familiar with the usages of a deliberative assembly and the rules that should prevail in it."

And now we come to the very important question, "How can the meetings of the association be made a success? How can we best conduct our meetings so that the general principles upon which every branch or subject of education rests, may be thoroughly discussed and understood, and that clear and correct views may be obtained?" This, in my opinion, can be accomplished by a clear conception of our duty, and a faithful discharge of it. The 5th sub-section of section 17 in the General Regulations, relating to the duties of masters and teachers, reads thus:

"All masters and teachers shall regularly attend the teachers' meetings, or institutes, at such times and under such regulations as the Inspector shall direct, and they shall, by study, recitations, and general exercises, strive to systematize and perfect the modes of discipline and of teaching in the Public Schools."

In this our duty is clearly and explicitly laid down. It is as much our duty to attend the meetings of the convention as it is to attend our schools during the prescribed teaching days in each school term; and it is equally our duty, by study, so to prepare ourselves, that we may contribute to the interest, pleasure, and profit of the association. Let each member, in the interval between the meetings of the association, note any difficulties experienced in the conduct or management of the school, to be submitted for consideration and discussion at the next meeting, or it may be some expedient experimented upon, and found successful in the teaching of some particular subject.

Again, the teaching of a class on some stated subject, as a model lesson, followed by a friendly discussion and criticism, would furnish us with model school work of the highest character, and could not fail to profit those present.

Another means of profit might be made by the adoption of class drills, and which are intended to draw out the methods pursued by teachers in conducting classes, and in governing schools. "The method of conducting a class-drill is to have some one appointed to lead, who states the subject for consideration, as, for example, the methods of teaching spelling, and then calls on some of the members, each in turn, say a gentleman and lady alternately, to state the methods practised, and the success attending each. In this way the experience of a large number of teachers, and the comparative success of different methods, is obtained in a little time."

This exercise is highly valued by the teachers in some of the States. They are in the habit of meeting an hour before the commencement of the daily session, and conducting them as just described.

The question box also should be largely patronized by teachers taking note of, and submitting for solution, any point upon which they may be desirous of receiving information.

There are a good many teachers in this county, but the Institute has seen too few of them. I am informed by the Secretary-Treasurer, that only twenty-four teachers of the ninety engaged in this county are enrolled as members. Why the majority do not come is a problem. It cannot be because they have not been asked. Every teacher has been invited to attend these meetings, and that so few respond is certainly not to the credit of the profession in the county.

What is wanted is that each teacher in the county of Peel should feel himself or herself in no way isolated, but come out and see what others are doing. Besides, the teacher can in no better way exhibit to his trustees that he is worthy of their confidence, that his ability is such as to command their respect, that he is really mastering the theory of teaching, and is able to discharge with skill the arduous duties of his calling.

Let me in conclusion express a hope that we are about to enter upon a new era: that the year 1881 will show a very different record to that of the present one; that inspector and teacher, thoroughly awakened to a sense of their duty towards the Institute, will work unitedly and energetically to make their meetings second to none in the Province.

HIGH SCHOOL TEACHERS, BEWARE!

LINDSAY, Ont., Dec. 28, 1880.

To the Editor of the Canada School Journal:

SIR,—I congratulate your paper on having hit on a very practical issue as to a grievance indeed felt—the mode of self-advertising adopted by certain Collegiate Institutes. But it is carried further than even you are probably aware of. Not content with advertising by the press, and running a so-called Educational Magazine, the Hamilton Collegiate Institute employs a travelling agent, who attended our Convention, and presumably attends other Conventions, for the purpose, not merely of pushing the Magazine, in which he is irrepressible, but of touting for pupils to the Collegiate Institute. Sir, it is a fact that this person had to be *rebuked* for so doing by the Principal at our late Convention. Such means of obtaining pupils might consort with the dignity of Mr. Squeers, or with that of the pilgrim who in this land promulgates patent medicines and lightning rods, but they ill suit the position of a Collegiate Institute, and challenge criticism of work done at the latter, which it is so easy to answer, I am, dear Sir, yours,

A TEACHER.

Mathematical Department.

Communications intended for this part of the JOURNAL should be on separate sheets, written on one side only, and properly paged to prevent mistakes They must be received on or before the 20th of the month to secure notice in the succeeding issue, and must be accompanied by the correspondents' names and addresses.

EXAMINATION PAPERS.

The following Algebra papers, so far as they go, will be found of about the same difficulty as those given at Intermediate and First Class Examinations.

I.

1. Find quantities which will divide into the following without remainders:

(1) $a^3-3a^2b+3ab^2-b^3+a^2x-b^2x$.

(2) $x^4-(a^2-b-c)x^2-a(b-c)x+bc$.

(3) $(a-b)^6-b^6$.

2. Examine in what cases $a^n \pm b^n$ is divisible by $a \pm b$.

3. Prove the rule for finding the L. C. M. of two algebraic quantities.

Find that of

x^2-9y^2, $x^3+3x^2y+4xy^2+12y^3$, $x^3-3x^2y+4xy^2-12y^3$.

4. Simplify

(1) $\dfrac{yz}{x(x^2-y^2)(x^2-z_2)}+\dfrac{zx}{y(y^2-z^2)(y^2-x^2)}+\dfrac{xy}{z(z^2-x^2)(x^2-y^2)}$

(2) $\dfrac{ab+bc}{ca}\left(\dfrac{1}{bc}-\dfrac{1}{ab}\right)+\dfrac{bc+ca}{ab}\left(\dfrac{1}{ca}-\dfrac{1}{bc}\right)+\dfrac{ca+ab}{bc}\left(\dfrac{1}{ab}-\dfrac{1}{ca}\right)$.

5. If $x^5+px^4+qx^2+px+1$ be divisible by x^3+px^2+px+1, then $p+1=q$.

6. (1) If $y+z=ax$, $z+x=by$, $x+y=cz$, then

$$\frac{1}{1+a}+\frac{1}{1+b}+\frac{1}{1+c}=1.$$

(2) If $x+y+z=0$, then

$x^2(y+z)+y^2(z+x)+z^2(x+y)+3xyz=0$.

7. Shew that $x^2+y^2>2cy$.

Prove

(1) $a^3+b^3>a^2b+b^2a$, if the greater of a and b be positive.

(2) $(a+b-c)^2+(a+c-b)^2+(b+c-a)^2>ab+bc+ca$.

8. Assuming that $a^m \times a^n=a^{m+n}$ for all values of m and n, shew that

$$a^{\frac{p}{q}}=\sqrt[q]{a^p}=\left(\sqrt[q]{a}\right)^p.$$

9. Shew how to extract the square root of $a+\sqrt{b}$.

Simplify $\dfrac{2+\sqrt{2}}{\sqrt{2}+\sqrt{3-2\sqrt{2}}}+\dfrac{2-\sqrt{2}}{\sqrt{2}-\sqrt{3+2\sqrt{2}}}$.

Rationalize the denominator of

$$\frac{1}{1+\sqrt{2}+\sqrt{3}}.$$

II.

1. If $x^2+y^2+z^2+2xyz=1$, shew that

(1) $\{(1-y^2)(1-z^2)\}^{\frac{1}{2}}+\{(1-z^2)(1-x^2)\}^{\frac{1}{2}}+\{(1-x^2)(1-y^2)\}^{\frac{1}{2}}=$
$z(1+x)+x(1+y)+y(1+z)$.

(2) $\left\{\dfrac{1-x}{1+x}\cdot\dfrac{1-y}{1+y}\right\}^{\frac{1}{2}}+\left\{\dfrac{1-y}{1+y}\cdot\dfrac{1-z}{1+z}\right\}^{\frac{1}{2}}+\left\{\dfrac{1-z}{1+z}\cdot\dfrac{1-x}{1+x}\right\}^{\frac{1}{2}}=1$.

2. Solve the equations

(1) $zx+xy-yz=x^2-a^2$, $xy+yz-zx=y^2-b^2$, $yz+zx-xy=z^2-c^2$.

(2) $(x+y)a^2=x$, $(x+y)b^2=y$; explain the results.

3. Sum the following series:

(1) $1^2+2^2+3^2+\ldots\ldots$ to n terms.

(2) $\dfrac{2}{3}+\dfrac{4}{3^2}+\dfrac{6}{3^3}+\dfrac{8}{3^4}+\ldots\ldots$ to infinity if convergent; to n terms if not convergent.

4. (1) Find the whole number of permutations of n things when each may occur once, twice, thrice.....up to r times.

(2) Find the sum of the different numbers that can be formed with m digits a, n digits b, &c., the entire series of $m+n+\ldots\ldots$ digits being used in forming each number.

5. If the Binomial Theorem holds for a positive integer, shew that it holds for a positive fraction.

Shew that

$$\left\{\frac{x}{x-1}\right\}^{\frac{1}{x}}=1+\frac{1}{x^2}+\frac{x+1}{\underline{|2}}\cdot\frac{1}{x^4}+\frac{(x+1)(2x+1)}{\underline{|3}}\cdot\frac{1}{x^6}+\ldots\ldots$$

6. (1) As a problem in combinations, without reference to multinomial theorem formulæ, find the coefficient of $a^nb^nc^n$ in the expansion of $(a+b+c)^{3n}$, n being a positive integer.

(2) $C^n_r=\dfrac{n.\overline{n-1}\ldots\ldots\overline{n-r+1}}{\underline{|r}}$, then the coeff. of the middle term of $(1+x+x^2)^n$ is

$$1+C^n_1\,C^{n-1}_1+C^n_2\,C^{n-2}_2+\ldots\ldots C^n_{\frac{n}{2}}\,C^{\frac{n}{2}}_{\frac{n}{2}},\text{ or}$$

$$1+C^n_1\,C^{n-1}_1+C^n_2\,C^{n-2}_2\ldots\ldots C^n_{\frac{n-1}{2}}\,C^{\frac{n+1}{2}}_{\frac{n-1}{2}}.$$

7. Shew that $e^x=1+x+\dfrac{x^2}{\underline{|2}}+\ldots\ldots$

If in the equation

$$a^{a^x}=x$$

x be a small quantity whose powers above the second may be neglected, shew how to find x approximately.

8. Examine in which cases the series

$$\frac{1}{1^p}+\frac{1}{2^p}+\frac{1}{3^p}+\ldots\ldots$$

is convergent or divergent.

If the series be convergent it is greater than

$$\frac{1}{2}\cdot\frac{2^p-1}{2^{p-1}-1},\text{ but less than }\frac{2^{p-1}}{2^{p-1}-1}.$$

9. (1) Every convergent is nearer to the continued fraction than any of the preceding convergents.

(2) Any convergent is nearer to the continued fraction than any other fraction which has a smaller denominator than the convergent has.

(3) The ratio between the area of a regular decagon described about a circle and that of another within the circle is

$$\frac{8}{7}+\frac{1}{4}+\frac{1}{4}+\ldots\ldots$$

SOLUTIONS OF ALGEBRA EXERCISE IN DECEMBER ISSUE.

1. Left side $=\dfrac{s}{a}-1+\dfrac{s}{b}-1+\ldots\ldots=\ldots\ldots$

2. Left side $=1-\dfrac{a}{s}+1-\dfrac{b}{s}+\ldots\ldots$

$$=n-\frac{a+b+\ldots\ldots}{s}=n-1.$$

3. It should be $s=a+b+c$. Then

$s(s-a)(s-b)(s-c)=2a^2b^2+2b^2c^2+2c^2a^2-a^4-b^4-c^4$
$=4(xy+yz+zx)$.

4. (1) Evidently $a+b+c=x+y+z$,

and $2(b+c)=2x+y+z$; $\therefore\ b+c-a=x$, &c.

By preceding question $a^4+\ldots\ldots$

$=-(a+b+c)(b+c-a)(c+a-b)(a+b-c)=-(x+y+z)xyz$.

(2) $8abc=(x+y)(y+z)(z+x)=(x+y+z)(xy+yz+zx)-xyz$.

5. $x^2-yz=a^2$; $\therefore\ x^3+xyz=a^2x$, &c.

$\therefore\ \dfrac{a^2x+b^2y+c^2z}{x+y+z}=\dfrac{x^3+y^3+z^3-3xyz}{x+y+z}$

$x^2+y^2+z^2-xy-yz-zx=a^2+b^2+c^2$.

6. $xyz+x+y+z$

$=\dfrac{1}{abc}\{(b-c)(c-a)(a-b)+bc(b-c)+ca(c-a)+ab(a-b)\}=0$.

7. $x(a+1)=x+y+z+u=y(b+1)=z(c+1$

$$\frac{x}{x+y+z+u}=\frac{1}{a+1},\ \frac{y}{x+y+z+u}=\frac{1}{b+1},\ \&c.$$

$$\text{and } \frac{1}{a+1}+\ldots\ldots=\frac{x+y+z+u}{x+y+z+u}=1.$$

8. $\frac{1+a}{1-a}=\frac{x}{y}$, &c.; $\therefore \frac{1+a}{1-a}\cdot\frac{1+b}{1-b}\cdot\frac{1+c}{1-c}=\frac{x}{y}\cdot\frac{y}{z}\cdot\frac{z}{x}=1.$

9. $(s-a)^2+\ldots=4s^2-2s(a+b+c)+a^2+b^2+c^2$
$=4s^2-2s(2s)+a^2+b^2+c^2=a^2+b^2+c^2.$

10. True if $6s^2-2s(2a+2b+2c)+2(ab+bc+ca)=2s^2-a^2-b^2-c^2$
if $6s^2-8s^2+2(ab+bc+ca)=2s^2-a^2-b^2-c^2$
if $a^2+b^2+c^2+2ab+2bc+2ca=4s^2$
$=(a+b+c)^2.$

11. Second equality is obtained by multiplying the first by $\frac{xyz}{abc}$.

12. True if $s(s-b)(s-c)+\ldots+\ldots-(s-a)(s-b)(s-c)=abc.$
Putting $a=0$ in left side, it becomes
$s(s-b)(s-c)+s^2(2s-b-c)-s(s-b)(s-c)=0.$
Hence a is a factor; and thence, by symmetry, b and c also; $\therefore$ expression$=A.abc$, and putting $a=b=c=1$, we may shew that $A=1$. The dimensions shew that when the three factors a, b, c have been found there can be no other literal factors.

13. Given equality is

$$\frac{b^2+c^2-a^2}{2bc}+1+\ldots-1+\ldots-1=0,$$

$$\text{or, } \frac{(b+c+a)(b+c-a)}{2bc}-\frac{(b+c-a)(b+a-c)}{2ac}-\frac{(c+a-b)(c-a+b)}{2ab}=0,$$

or $(b+c-a)\{a(b+c+a)-b(b+a-c)-c(c+a-b)\}=0,$
or $(b+c-a)(a^2-b^2+2bc-c^2)=0$, etc.

14. True if $2s^3-s^2(2a+2b+2c)+4s(0)+8abc=8abs$
if $2s^3-s^2(2s)+8abc=8abc.$

15. $x^2+y^2=(x+y)^2-2xy=p^2-2q.$
$x^3+y^3=(x+y)(x^2-xy+y^2)$
$=(x+y)\{(x+y)^2-3xy\}=p(p^2-3q)$
$x^4+y^4=(x+y)^4-4xy(x^2+y^2)-6x^2y^2$
$=(x+y)^4-4xy\{(x+y)^2-2xy\}-6x^2y^2$
$=p^4-4q(p^2-2q)-6q^2$
$=p^4-4p^2q+2q^2.$
$x^5+y^5=(x+y)^5-5xy(x^3+y^3)-10x^2y^2(x+y)$
$=(x+y)^5-5xy(x+y)\{(x+y)^2-3xy\}-10x^2y^2(x+y)$
$=p^5-5qp(p^2-3q)-10q^2p$
$=p^5-5p^3q+5pq^2.$

16. Left side of equality equals
$2a^2b^2+2b^2c^2+2c^2a^2-a^4-b^4-c^4=2a^2b^2+2(b^2+a^2)(b^2+a^2)-a^4-b^4-(a^2+b^2)^2=2a^2b^2+(a^2+b^2)^2-a^4-b^4=4a^2b^2.$

17. Given equality becomes

$$\frac{a^2+bc}{a^2-bc}+1+\frac{b^2+ca}{b^2-ca}-1+\frac{c^2+ab}{c^2-ab}-1=0$$

$$\text{or, } \frac{2a^2}{a^2-bc}+\frac{2ac}{b^2-ca}+\frac{2ab}{c^2-ab}=0,$$

$$\text{or, } \frac{a^3}{a^3-abc}+\frac{abc}{b^3-abc}+\frac{abc}{c^3-abc}=0,$$

which in multiplying up becomes

$$a^2b^2c^2(3abc-a^3-b^3-c^3)=0,$$

$$\text{or } a^2b^2c^2(a+b+c)(a^2+b^2+c^2-ab-ac-bc)=0.$$

If abc be possible quantities and not zero, the only factor that can be zero is $a+b+c$; for $a^2+b^2+c^2$ is greater than $ab+ac+bc$ by a well known theorem in Inequalities. Hence $a^2+b^2+2ab=c^2$, or $a^2+b^2-c^2=-2ab$.

$$\therefore \frac{c^2}{a^2+b^2-c^2}=-\frac{1}{2}\cdot\frac{c^2}{ab}=-\frac{1}{2}\cdot\frac{c^3}{abc};$$

$$\text{so } \frac{a^2}{b^2+c^2-a^2}=-\frac{1}{2}\cdot\frac{a^3}{abc};$$

$$\text{and } \frac{b^2}{c^2+a^2-b^2}=-\frac{1}{2}\cdot\frac{b^3}{abc}.$$

$$\text{Hence } \frac{a^2}{b^2+c^2-a^2}+\ldots+\ldots=-\frac{1}{2}\cdot\frac{a^3+b^3+c^3}{abc}$$

$$=-\frac{1}{2}\cdot\frac{3abc}{abc}=-\frac{3}{2}.$$

18. Multiplying together the factors

$$a^3b^3+b^3c^3+c^3a^3=abc^4+bca^4+cab^4$$
$$=abc(a^3+b^3+c^3)$$

$$\therefore \frac{1}{a^3}+\frac{1}{b^3}+\frac{1}{c^3}=\frac{abc(a^3+b^3+c^3)}{a^3b^3c^3}=\ \&c.$$

19. True if $\frac{1}{1+x+\frac{1}{y}}+\frac{1}{1+y+\frac{1}{z}}+\frac{1}{1+z+\frac{1}{x}}=1.$

$$\text{if } \frac{1}{1+x+zx}+\frac{xz}{xz+xyz+x}+\frac{x}{x+xz+1}=1,$$

$$\text{if } \frac{1}{1+x+xz}+\frac{xz}{xz+1+x}+\frac{x}{x+vz+1}=1.$$

20. $a+ax=(a+b+c)x$

$$\therefore \frac{a}{a+b+c}=\frac{x}{1+x};\ \text{so } \frac{b}{a+b+c}=\frac{y}{1+y};\ \&c.$$

$$\therefore \frac{x}{1+x}+\frac{y}{1+y}+\frac{z}{1+z}=1.$$

Which on multiplying up becomes

$$xy+yz+zx+2xyz=1.$$

SOLUTIONS SENT IN.

W. H., Hamilton, sends the following solution of 1 in our December issue (Farms decreasing in value):

Let x be the number of years. Then the first farm is worth at the end of each year $\frac{7}{8}$ of what it was worth at the beginning, and hence its value in x years is $15000(\frac{7}{8})^x$. Similarly, the other farm is worth at the end of x years $12000(\frac{9}{10})^x$; and

$$15000(\tfrac{7}{8})^x=12000(\tfrac{9}{10})^x$$
$$\text{or } \tfrac{5}{4}=(\tfrac{36}{35})^x$$
$$\text{or } \log 5-\log 4=x(\log 36-\log 35).$$
$$\text{or } x=\frac{\log 5-\log 4}{\log 36-\log 35}=7{\cdot}92.$$

R. J. McLaughlin has sent in correct solutions of questions 1 and 3 in our November issue.

SOLUTIONS ASKED FOR.

1. A cubical box contains exactly 64 shots, each shot three inches in diameter. What amount of the box is occupied by them? READER, Markham.

2. A company at a tavern found, when they came to pay their reckoning, that if there had been three more persons, each would have had to pay a shilling less, but had there been two less, each

would have had to pay a shilling more. Find the number of the company, and each man's share of the reckoning. (By algebra).

3. I wish to pay a bill in Naples of 7,500 lira; the direct exchange is $0.22=1 lira; the exchange on London is $4.95; of London on Paris is £1=26 francs; of Paris on Naples is $1\frac{1}{8}$ francs =1 lira. What is the difference between the direct and circuitous exchange? (By arith.)

4. A merchant gains every year 50 per cent. on his capital, of which he spends $1,200 per annum in house and other expenses. At the end of 4 years he finds himself in possession of four times as much capital as he had at the beginning. What was his original capital? D. Dunton, Holland Landing.

5. A certain number of men and women drank to the value of 20 shillings sterling. The reckoning being called, a man said he would pay 4*d.* for himself and 4*d.* for every man in the company, and every man said he would do the same. This did not make up the reckoning; so a woman said she would pay 3*d.* for herself and 3*d.* for every woman in the company, and every woman said she would do the same. This made up the reckoning. How many men and women were there? F. Flanagan, Kinkora.

6. The number of men in the side rank of a solid body of militia is to the number in the front rank as 2 to 3. If the length and breadth be increased so as to number each 4 men more, the whole body will contain 2,320; how many does it now contain? Solve by arithmetic.

7. If several consecutive terms of an equation, whose roots are real, be wanting, and if the next terms on each side of those wanting have the same sign, prove that the equation cannot have as many roots as it has dimensions.

8. Solve the following equation by factoring:

$$\frac{2c^2}{d^2}+\frac{ac}{d}-(a-b)(2c+ad)\frac{x}{d}=(a+b)\frac{cx}{d}-(a^2-b^2)x^2.$$

9. From the middle of a town two streets branched off, and crossed a river that ran in a straight course, by two bridges *A* and *B*. From their junction a sewer equally inclined to both streets led to a point in the river at the distance of 6 chains from the bridge *A*, and a distance from *B* less by 11 chains than the length of the sewer: the expense of making it amounted to as many pounds per chain as there were chains in the street leading to *A*. The sewer, however, being insufficient to carry off the water, an additional drain was made from a point in this street distant four chains from the bridge *A*, which entered the river at the same point with the sewer, and was equally inclined to the river and sewer. Now it was found that a drain down the middle of each street, at the rate of £9 per chain, would have cost only £54 more than the expense of the sewer. Required the lengths of the streets and the sewer.

10. A tract of land is bounded thus: N. $35\frac{1}{4}°$ E., 23.00; N. $75\frac{1}{2}°$ E., 30.50; S. $3\frac{1}{4}°$ E., 46.49; N. $66\frac{1}{4}°$ W., 49.64. It is to be divided into four equivalent parts by two straight lines, one of which runs parallel to the third side; required the distance of the parallel division line from the first corner, measured on the fourth side; also the bearing of the other division line, and its distance from the same corner measured on the first side.

L. B. Fraker, Fayette, Ont.

TO CORRESPONDENTS.

Reader, Markham. You will find the Alligation question solved in the December number.

Practical Department.

EDUCATION DEPARTMENT, ONTARIO.

DECEMBER EXAMINATIONS, 1880.

Admission to High Schools.

ARITHMETIC.

TIME—TWO HOURS.

Values.

10 1. Define — *Number, Numeration, Notation, Addend, Minuend.*

10 2. Find the G. C. M. of sixty-eight million five hundred and ninety thousand one hundred and forty-two, and eighty-five million forty-four thousand and fifty-nine.

16 3. For a voyage of 17 weeks a ship takes provisions to the amount of 48 tons 4 cwt. 2 qrs. 20 lbs. 9 oz. Supposing that there are 73 men aboard, how much may be allowed each man per day?

16 4. Find the amount of the following bill:—$14\frac{3}{4}$ lbs. beef at 10c, $12\frac{1}{2}$ lbs. pork at $9\frac{1}{2}$c, 3 turkeys, weighing in all $35\frac{1}{2}$ lbs., at $12\frac{1}{2}$c per lb.; 12 lb. 10 oz. lard, at 15c per lb.; 5 geese, weighing in all 45 lb. 12 oz., at 10c per lb.

16 5. Simplify—

$$\frac{5\frac{5}{9}\text{ of }\frac{3}{25}+3.\dot{3}\text{ of }2-1\frac{1}{2}}{\frac{1}{17}\text{ of }(2.0\dot{4}\dot{5}\quad .5)}\text{ of }\frac{£19\ 16s.\ 7\frac{3}{4}d.}{£20\ 16s.\ 8\frac{3}{4}d.}$$

16 6. What is the weight of a block of stone 12 ft. 6 in. long, 6 ft. 6 in. broad, and 4 ft. $1\frac{1}{2}$ in. thick, when a block of the same kind of stone 2 ft. 6. in. long, 3 ft. 9 in. broad, and 1 ft. 3 in. thick, weighs 1875 lbs.?

16 7. A man, after paying an income tax of $15\frac{1}{2}$ mills on the dollar, and spending $3.37\frac{1}{2}$ a day, is able to save 1230.87\frac{1}{2}$ a year (365 days). Find his gross income.

ENGLISH GRAMMAR.

TIME—TWO HOURS.

Values.

39 1. Parse—"The Europeans were hardly less amazed at the scene which presented itself to their view."

9 2. Analyse—

"Beneath, in the churchyard, lay the dead,
In their night encampment on the hill."

12 3. Write the plural and the possessive singular of John, James, and King of England; and the third singular present indicative active of deny, crow, dye, cross, box, shock.

12 4. Define *Comparative Degree, Relative Pronoun, Adverb,* and *Participle.*

28 5. Correct what is wrong in the following sentences, giving your reason in each case:

I find them in the garden.
For there's many hereabout.
Let every child bring their books to-morrow.
All persons writing or defacing the walls will be expelled.
Why are you sorry for him.
Have either of you a pencil?
He said it was to be given to either you or I.
You or I are to go.

COMPOSITION.

TIME—ONE HOUR AND A QUARTER.

Values.

10 1. Vary the form of the following sentence in as many ways as you can, keeping the ideas:—"It was not so much the lateness of the hour, as the solitude and desolation of the place, that terrified me.

20 2. Re-write this passage, with proper spelling, punctuation, and capitals where they should be:—

The seige and storming of delhi was the most ilustrious event that occured in the coarse of that gigantic struggle

the leguer of lucknow during which the mear skeleton of a british regiment the 32d held out for six months against 200 thousand armed enemeys has perhaps excited more intense interest but delhi was the feet of arms of which briton has the most cause to be proud there too the british were realy the besieged though ostensably the seigers they were a mear handful of men more than 3700 bayonets asailed by 75 thousand men trained to european dissipline by english officers death wounds and feaver failed to turn them from their purpose thirty times they were attacted by overwhelming no's and thirty times did they drive the ennemy behind their defenses.

10 3. Correct the composition in these sentences:

(*a*) I never have and never will adopt this practice.

(*b*) He had thus lost his opportunity which never again returned not even for a moment.

10 4. Show the different meanings that may be conveyed by each of the following:—"I cannot find one of my books." "Every one is unwillingly deprived of his property."

20 5. Write a short letter asking a friend to pay you a visit.

GEOGRAPHY.

TIME—ONE HOUR AND A HALF.

Values.

8 1. Define—Isthmus, Promontory, Beach, Bay, Inlet, Sound, Roadstead, Strait.

10 2. Name and give the boundaries of the Zones. What determines the two Tropics and the two Polar Circles?

9 3. Define—Latitude, Longitude, First Meridian. What is the greatest latitude a place can have? The greatest longitude? Why?

9 4. Give, with their boundaries, the political divisions of North America.

9. 5. Name, giving their relative positions, the Divisions of British North America. Which of these are comprised in the Dominion of Canada, and what are their Capitals?

9 6. Make a list of the principal rivers of Ontario, telling into what body of water each flows.

9 7. Give the boundaries of Asia, and the relative positions of its chief political Divisions.

9 8. Draw an outline map of Ireland, and mark the position of Dublin, Belfast, Cork and Limerick.

DICTATION.

TIME—TWENTY MINUTES.

VALUE, 22. (*Two marks are to be deducted for every misspelled word.*)

A. A group of stately figures wrapped in rich military cloaks, with helms glistening in the torchlight, and plumes streaming on the wind, struggle onward beside the litter.

B. Inspired by their poets, and cheered on by a superstitious belief in the prophecies of their soothsayers, they never thought of yielding, even when they had lost the power of resistance.

C. In spite of the great disparity of the opposing armies and the formidable preparations made by the enemy, General Brock prepared to carry the fort by assault.

FOURTH BOOK AND SPELLING.

TIME—ONE HOUR AND A HALF.

Values.

18 1. Write an account of the deliverance of Germany by Hermann.

2. "The disasters of Napoleon's Russian campaign have been portrayed by French writers, who were eye-witnesses of this signal defeat of blind ambition and the insane lust of conquest."—*Fourth Reader, p.* 228.

2 (i.) Who was Napoleon?

2 (ii.) About how long ago did he live?

8 (iii.) Explain the meaning of 'disaster', 'campaign', 'signal', 'lust'.

2 (iv.) Which side burnt Moscow?

4 (v.) Tell what happened to the French in this campaign after the burning of Moscow.

3. "They implored him to pardon their ignorance, incredulity, and insolence, which had created him so much unnecessary disquiet, and had so often obstructed the prosecution of his well-concerted plan; and passing, in the warmth of their admiration, from one extreme to another, they now pronounced the man, whom they had so lately reviled and threatened, to be a person inspired by Heaven with a sagacity and fortitude more than human, in order to accomplish a design so far beyond the ideas and conception of all former ages."—*Fourth Reader, p.* 48.

10 (i.) Explain the meaning of 'incredulity', 'reviled', 'sagacity', 'fortitude', 'accomplish'.

4 (ii.) Explain the meaning of 'obstructed the prosecution of his well-concerted plan.'

4 (iii.) *Passing in the warmth of their admiration from one extreme to another.* Tell what the two extremes were.

2 (iv.) Why is 'Heaven' printed with a capital H?

10 4. Distinguish between

mite and might,
pore and pour,
frees, frieze and freeze,
seem and seam,
hoer and hoar.

6 5. Give two meanings for each of the following words:
Mine, pine, club.

ENGLISH HISTORY.

TIME—ONE HOUR AND A HALF.

Values.

22 1. Tell how William the Norman came to be king of the English, and how he made his rule very strong.

12 2. What is meant by the expressions—'to do homage,' 'self-taxation,' 'feudal tenant,' 'ministers of the crown,' 'prime minister?'

12 3. What was the cause of the troubles between King Charles I. and his Parliament, and to what did they lead?

12 4. Show how England and Scotland came to be one kingdom, and how the union did good to both.

12 5. Tell what you know about the war against the American colonies in the reign of George III., and its results.

12 6. What do you understand by Free Trade, Limited Monarchy, the Whig Party?

SCHOOL EXPOSITIONS.

As a closing exercise an exposition is by far the most profitable and interesting that the school could possibly offer. It is simply an exhibition of the work done by the pupils during the term. From the first day of school the work has been written out, and preserved with a view to the exposition. In the reading classes, many of the exercises have been preserved; the same in spelling. In arithmetic the problems and solutions, analyses, &c., have been written in a blank book, so that each pupil has an arithmetic with the key. In grammar the parsing exercises have all been carefully written and the sentences diagrammed and analyzed. By the way, our "Normal Teacher" Parsing Book is just the thing to secure written parsing lessons in good shape for the exposition. In geography each pupil will have his maps and outlines to exhibit. As physiology has been taught by the use of charts and drawings on the blackboard, the teacher can give a very interesting lesson by having pupils step to the charts or diagrams and point out the different parts of the body. History has been taught almost exclusively by essays and outlines, and these will be in good order for the exposition. No subject in a country school should receive more careful attention than letter writing. No school is well taught that does not include it in its course of study. This subject should include letters of all kinds, the drawing of drafts, notes, &c., and all these will come in to swell the work of the exposition. Every teacher should be able to teach music. At the exhibition he can exhibit the musical talent of his pupils by having them sing a few songs which they have learned. If rhetoric has been taught, there will be a good opportunity to have some original productions read. Every teacher can teach Botany and Geology in a country school, or he *should*

be able to do so at least. If he does attempt it, let the pupils collect the rocks and flowers, and the teacher can name and analyze them. Have a nice place where all the rocks and flowers can be on exhibition. The teacher who knows anything of philosophy or chemistry, can perform during the term a number of experiments and teach the pupils to do the same. At the exposition the pupils can perform these experiments themselves. And now when the end of your term is at hand there will be no need of hurrying, cramming, forcing, and neglecting regular work to make some sort of closing display. Yet you will have something interesting and improving to the whole neighborhood, which you invite to visit you on the last day. On the afternoon before, you will have the pupils bring in their stores, and with their assistance you will tack some muslin along one side or end of your school room and under your direction you will all, or such as can be of assistance, fasten in full view the outlines, drawings, the pressed flowers neatly fastened on paper, and pressed ferns and leaves which the children have gathered, and all the various written exercises of both little and big pupils, with the name of the author signed to each, arranging the whole tastefully as you know how. Have a table, likewise covered with muslin, as the clean back ground adds much to the appearance of things, on which to arrange such things as cannot be hung. Here may be placed the minerals, various kinds of wood, shells, insects, or any specimens or curiosities which the children have gathered and talked about during the term, the copy books, composition books, &c. It is with no little delight that the children see these trophies of their work arranged and spread out before them, surprised to see what a nice display they make. How emulation and ambition are kindled afresh ; how it helps them to feel special interest in every exercise they prepare during the term ; what a *living* interest it gives to the subjects, compared with what a dry, abstract examination would awaken ; what growth it promotes in the space of a term through the work it calls forth, compared with any extraneous entertainment such as the 'exhibition' of our country schools usually is. The idea of the 'exposition' had its origin in the Normal school, at least we got it there, and having tried it know it to be a most capital one, and wish others to have the benefit of the plans it opens up for raising the plane of school work.—*The Normal Teacher.*

ONE BOY'S LIFE.

John Kitto was such a puny child that when he was born he was not expected to live many hours, and it was only by the greatest care that he could walk at two years of age. This weakness prevented him from joining other boys in their sports. But he enjoyed himself quite as much lying behind the hedge, or on a sunny bank. He was not sent to school until he was eight years old, and he only then stayed long enough to learn to read and write, and get some knowledge of figures. The few pence that it cost could not be spared at home, for his father was a very sickly man, and unable to work steadily, and his mother had more than she could do to take in washing, and keep her little family fed and clothed. But father and mother looked to him as the eldest to help, and before he was ten years old, they began to look about for something for him to do. The shoemaker in the village took a great fancy to John, perhaps because he was so good a listener, for he poured into his eager ears, as he sat working at the bench, those remarkable tales of Blue Beard, Cinderella, Jack-the-Giant-Killer, and Beauty and the Beast.

John admired his friend's capacity for story-telling, and was never weary of listening, but he soon learned that he was not the only repository of such learning, but that for a copper he could buy similar astonishing marvels at the village book store. Once in a while he earned a penny holding a horse at the blacksmith's, and then he was occupied for days in studying the toy book he had bought.

His grandmother possessed a treasure that was a source of unfailing delight to young John. This was a family Bible, which was profusely illustrated. At ten years John was a good reader, and this precious book was eagerly read by his father, whose failing health kept him indoors. They owned also a Prayer Book, Pilgrim's Progress, and Gulliver's Travels. The last John devoured, and so much did he admire them, that with a feather and the indigo his mother used in washing, he decorated all the engravings. When his grandmother noticed his fondness for books, she borrowed books from the neighbours, and he soon was familiar with every book owned on the street.

In 1817, while helping his father to mend a roof, he lost his footing, and fell thirty-five feet into the street below. John remained insensible for a week, and did not leave his bed for four months. He partially recovered his strength, but the fall deprived him of his hearing. He became as deaf as though he never had had the sense. While still ill from the accident he asked for a book he desired to read. His mother answered him by signs which he could not understand ; at last a slate was brought, on which the answer to his enquiry was written. "Why do you write to me ? why not speak ?" he said, and to his great astonishment, the reply was written, "You are deaf."

John's circumstances were now fearful, but his spirit was undaunted. He went to the shore where cargoes were received, and wading out with other boys, collected scraps of refuse, which he sold ; but this profit was soon stopped, for he stepped upon a broken bottle, which put an end to his small gatherings. His next effort was more hopeful. With his last two pence he bought paper and painted heads, houses, flowers, etc., which sold from his mother's window at two pence halfpenny apiece. Then he tried painting small signs for windows. The few coppers he earned were spent on books. But his grandmother died, and he was turned into the streets. To save him from this fate he was taken into the Plymouth workhouse.

When seventeen years of age he was apprenticed to a shoemaker, who treated him so cruelly that upon writing to the magistrates of the town, they investigated his case and set him free. A subscription was raised to pay for his board and clothes until a situation could be found. In the meantime, Kitto devoted all his time to mental improvement. His aim was to be useful to mankind, and he bent all his energies towards preparing himself for that end. His industry never relaxed, even when he obtained employment. "I cannot," he wrote, "accuse myself of having wasted or misemployed a moment of my time since I left the workhouse." He set apart a task for every part of the day, giving himself only six hours for sleep.

John Kitto died in Cannstatt, Germany, aged fifty. He was always deaf, almost infirm in health ; yet he mastered Hebrew and Greek, and travelling through Russia and the East collected an immense amount of material about manners and customs to illustrate many valuable works. He was a regular contributor on the *Penny Magazine*, which was reprinted in America and translated into French, German and Dutch. He wrote "The Pictorial Bible," "Pictorial History of Palestine and the Holy Land," "History of Palestine," "Pictorial Sunday Book and Geography of the Holy Land." His name appeared in his last work as Fellow of the Royal Society of Antiquaries and Doctor of Divinity. The Queen of England granted him £500 a year on account of his literary works.

From such a life there is much to encourage every boy and girl in a desire for self-improvement. This boy, against every possible obstacle, educated himself and produced some of the best works of the kind ever written. It is a noble life that can leave such a record.

Awake up, boys, after reading this account of a workhouse boy's trials and triumphs, and resolve to imitate him in his desire for knowledge, and to leave the world better for having lived in it.—*New York School Journal.*

Notes and News.

ONTARIO.

It is always a pleasure to us to mark progress in education, whether it be in University, College, High School, or Public School ; and we have lately observed that many decidedly practical steps in the way of improvement are being taken, which we shall note from time to time.

In the Ontario Commercial College, Belleville, a large number of students are preparing for commercial life. Young gentlemen from the West Indies, Bermuda, New York State, Quebec and Ontario meet together there to be qualified for the merchant's and financier's desks, and a considerable increase is expected this month. This flourishing condition of affairs not only reflects the highest credit on the Principal and Assistants, but is also a substantial testimony to the value of the instruction they impart.

We are pleased to observe that the establishment heretofore

known as the High School, Whitby, has developed into a collegiate institute, which sufficiently indicates the progressive state of education in that locality.

The rapid and successful growth of St. Thomas Collegiate Institute is unquestionably a "sign of our times." Beautifully situated in a town of growing importance, large, and well fitted with every modern improvement, it possesses most attractive architectural features, but its chief beauty consists in the superior instruction given within its walls by Principal J. Millar, B.A., and his efficient staff, Messrs. J. Leitch, J. W. Cook, A. J. Bell, B.A., and N. W. Ford. The record of work done since it changed its designation is most creditable, and it now stands second to no other collegiate institute in the Province. During the past academic year its record of examinations is as follows:—4 passed University matriculation (Toronto), 1 passed matriculation in law 2 passed matriculation in medicine, 1 passed matriculation in Royal Military College (Kingston), 27 passed Intermediate or 2nd Class Teachers' examination, 12 passed third class Teachers' examination. While it gives every encouragement to those who have no local means of preparing for higher examination, it is observable that "students coming from other collegiate institutes or High Schools are expected to present certificates of honourable dismission." The building is arranged to accommodate about 300 pupils, and 7 or 8 teachers We were much impressed with the admirable appliances, suited to meet every requirement, with which the building is fitted.

A highly interesting proceeding marked the close of Brampton High School for the winter holidays, which was the presentation to Mr. Cortez Fessenden, B.A., Head Master, of a valuable parting gift consisting of twelve very handsomely bound volumes of Shakespeare's works, together with two volumes of Hudson's commentaries on the same. A beautifully illuminated address, richly framed, accompanied the valuable token, which was read by Miss A. Wallace, and Mr. E. Young presented the books. The gift and address were the united testimony of masters and pupils to the high opinion they had of Mr. Fessenden as a scholar and teacher, and the great esteem in which they held him as a gentleman and a friend. The recipient of the honor expressed his thanks for such a distinguished mark of their appreciation, and spoke feelingly of the happy relations that had existed between the assistant masters, the pupils and himself. Mr. Galton, assistant master, made a few remarks, after which Mr. Fessenden bade them all a cordial and impressive farewell.

Mr. I. J. Birchard, B. A., has been appointed head master of Perth High School, at a salary of $1,000, and Mr. Embury was previously engaged as science master at same school at a salary of $700. On this matter an error appeared in our last issue through imperfect information.

Mr. George Stone, first-class certificate, has been appointed assistant master of the Beamsville High School, in room of Mr. H. Turnbull, who goes to complete his university course at Toronto.

During 1880, the Madoc Model School passed one second A in intermediate, 13 thirds, and 7 entrance candidates. At the professional examination, 22 of the candidates trained at it were successful at both non-professional and professional third class examinations for the County of Hastings. The students of this school were at the head of the list of successful candidates.

Mr. Joseph Boag, late head master of the Walkerton Model School, now occupies the position of Principal of the Central Schools, New Westminster, British Columbia. We are sure the district in which he is now located will be much benefited by Mr. Boag's remarkable energy and efficiency as a teacher, together with his influence as an upright and valued citizen. He has our cordial best wishes for success and prosperity in his new sphere of labor.

Bishop Alford, the well-known editor of the Greek Testament, addressed the pupils of the Helmuth Ladies' College at the closing exercises previous to the Christmas vacation.

Mr. Thos. Steele, late of the London Mutual School, is to succeed Mr. McRay in S. S. No. 20, London, the school west of Mount Pleasant Cemetery. Mr. Steele formerly taught in this section successfully and well. Salary for the ensuing year, $412.40.

We commend the Ingersoll High-School Board for increasing the salary of the Second Assistant to $425. A step in the right direction.

"The December number of the CANADA SCHOOL JOURNAL is one of the best numbers that have appeared."—London *Advertiser*, Dec. 17.

VALUABLE PRESENTATION.—At the regular examination of the Mt. Brydges public school, held on Monday, 20th ult., Mr. H. G. Lindsay, the head teacher, in retiring from the profession, was made the recipient of a magnificent gold-headed cane by his pupils. The address, which was very complimentary to Mr. Lindsay, was read on behalf of the pupils by Master Pearson Grigg, and the presentation made by Master Fred. Arnold, to which Mr. Lindsay replied in suitable terms.

At a successful school exhibition at Revere School, Biddulph, Sect. No. 5, on the 17th ult., addresses were given by Inspector Dearness and the Warden of the County. During the evening the teacher, Mr. McMillon, was presented by the pupils with a purse containing $20, accompanied by an address, on the occasion of his leaving the profession.

The second winter session of the (Episcopalian) Church College at Saskatchewan was opened, on Nov. 2nd, by the Lieut.-Gov. and the Bishop.

Knox College will apply to the Legislative Assembly at its next session for an act granting to it power to confer degrees in divinity.

One of the grandest dinners ever given in the Woodstock Canadian Literary Institution was that given on Dec. 21st to Professor and Mrs. Wells, who are about leaving the school.

ST. MARY'S, Dec. 21.—At a meeting of the Collegiate Institute board held on Wednesday evening last, Mr. McClure, of Oshawa, was appointed first assistant teacher, the position rendered vacant by Mr. McMurchie's appointment to the head mastership of the Harriston high school. Mr. McClure is a gold medallist and is very highly recommended. His salary for the first year is to be $900. *Presentation.*—The pupils of the Institute on Tuesday last presented Mr. James McMurchie, B.A., with an address and a very beautiful gold watch chain, with seal attached; valued at $40. The address was very nicely written on parchment by Mr. Williams, town clerk, and framed. The seal bears the inscription, "To Jas. McMurchie, B.A., from his pupils of the St. Mary's Collegiate Institute." Mr. McMurchie made an appropriate reply.

LISTOWEL.—*High School Prizes.*—The members of the high school board opened a subscription list a few days ago, and after a canvass of two hours or so, succeeded in securing over $80 of prizes to be distributed amongst the pupils of the high school at their approaching examination. There will likely be a public meeting held about Tuesday evening next in the Town Hall, at which the prizes will be distributed.

The School Trustees of Brooklyn, on Dec. 17, held a re-union of their schools, which are the best and most efficient in the county of Ontario. A lecture on "Kindergarten" was given by Mr. James Hughes, I.P.S. Mr. Hughes has given special attention to this subject, and in particular to that of training teachers in the art and mystery of giving drawing lessons. The lecture was a very great success, and we trust that Mr. Hughes may be induced to repeat it at many of our public schools. Addresses were delivered by the county member, by Mr. T. B Bicknell, Reeve, and by Mr. McBrien. Mr. Henderson is the master, to whose ability the Brooklyn school has much reason to feel grateful.

Mr. Wm. O'Connor, M. A., the present Head Master of Harriston High School, has been appointed Head Master of Owen Sound High School.

The Owen Sound High School building has been completed. It furnishes accommodation for 400 pupils.

Mr. James Duncan, Principal of Essex Co. Model School, and his assistants, were presented with a highly complimentary address by the teachers in training at the close of the term.

Mr. Daniel O'Doherty, has resigned his position as teacher in the Puce School, for No. 4, Sandwich East, where he will commence duty on 3rd inst.

Mr. McGregor, who has been so successful in the management of the Almonte High School, has been appointed to Brockville, at a salary of $1,200, with efficient support. It is expected Mr. McGregor will soon place the latter High School in a first-rate position.

Mr. Cortez Fessenden, under whose able instruction Brampton High School has done so well, has accepted the Head Mastership of the Napanee High School at a salary of $1,200.

Mr. McMurchie, who for some years has been the efficient Mathematical Master in the St. Mary's Collegiate Institute, succeeds Mr. O'Connor in Harriston.

Mr. Henry, late Mathematical Master in Ottawa Collegiate Institute, has been appointed to the Mathematical Mastership in Brampton High School.

Mr. McCallum, of Arnprior, has accepted the Mathematical Mastership in Cornwall High School.

Rev. T. D. Phillips, M.A., after many years' service, has retired from the Mathematical Mastership of Ottawa Collegiate Institute.

Mr. J. J. Birchard, lately appointed Head Master of Perth Collegiate Institute, took a very high place some years ago in his "First A." examination. He has since completed his University course, taking very high honors, especially in Mathematics. We predict a successful career for him in Perth.

NOVA SCOTIA.

Daniel McDonald, Esq., Inspector of Schools for Pictou county from 1869 to 1879, died at his residence in New Glasgow on the 4th ult. During his early manhood Mr. McDonald efficiently served as a public school teacher in several of the villages of his native county. As an inspector of schools he brought to the discharge of his duties a well-trained mind, an upright conscience, and much valuable practical experience of school work. His retirement from the position was in no sense a dismissal, but the result of the reorganization of the Inspectoral System of the Province. We believe that no inspector stood higher in the esteem and confidence of the Educational Department. In Mr. McDonald's demise many good causes have suffered loss. He was a man who interested himself actively and multifariously in what concerns the welfare of society. Living, he was sincerely esteemed; dead, he is affectionately mourned.

John T. Mellist, Esq., A.M., Professor of Mathematics and Science in the Halifax High School, has been obliged to resign his position by reason of ill-health.

The followihg was the order of exercises at the Junior Exhibition of Acadia College, on the 16th ult.: "The Study of History," Fred L. Shaffner; "The Formation of Character," Arthur L. Calhoun; "Napoleon 1st, as seen by Madam de Remusat"; "The Function of the Orator," Ernest A. Corey; "Lord Macaulay," Arthur G. Troop; "The Political Destiny of Canada," Robt. W. Dodge; "The Rise of the Essay," Herbert W. Moore. After the delivery of the foregoing orations, the Rev. Dr. Sawyer, President of the College, gave an extremely interesting historical address. Just a quarter of a century had elapsed since his first connection with Acadia, he having, in the month of December, 1855, entered upon his duties as Professor of Ancient Languages. The college life of that period was vividly described. Interesting personal reminiscences of the students with whom he was then brought into contact were given, and reference was made to the distinguished positions to which many of them have attained. The growth of the college in numbers, equipment, efficiency, and prestige, was gratefully described, and the learned President predicted that in another quarter of a century the College will have an endowment of at least a quarter of a million of dollars, that new and larger buildings will have been erected, and more numerous friends will have arisen to cherish and perpetuate the interests of education.

During the current collegiate year, two students of Acadia College, Mr. Frank W. Morse and Mr. F. D. Martin, have been carried away by death. They were both held in high esteem by their classmates and friends.

NEW BRUNSWICK.

The number of pupils passed for the Superior Allowance during the school year ended Oct. 31 was 589, giving $11.88 per pupil. One half of this sum goes to the trustees and one half to the teacher.

The Christmas vacation in the public schools began Dec. 20th, to continue two weeks. For the first time in many years, the teachers and students of the Provincial Normal School have had a Christmas vacation of one week. This was rendered desirable by the lengthening of the session from five to nine months.

In the schools in the city of St. John, the one-session plan has recently been adopted by the Board of Trustees. The session begins at 9:30 a.m., and ends at 1:30 p.m. for the younger pupils, and at 2:30 p.m. for the older pupils, with two short recesses.

It is understood that on the 1st of January inst., the teachers of St. John were to be placed on their former footing, as regards salaries, the reduced rates having continued just six months.

The Queen's County Teachers' Institute is to meet at the Narrows on the 27th and 28th inst.

The name of the Hon. Charles Fisher, D.C.L., Judge of the Supreme Court of N. B., who died at his residence, in Fredericton, on the 8th December, will occupy a prominent place in the educational history of the Province. In the year 1858, when he was Attorney-General and leader of the Government, he prepared and conducted through the Legislature a comprehensive "Act relating to Parish Schools," which inaugurated a new era in school affairs in the Province and continued in operation until 1871. The late judge was an honorary member of the Educational Institute of New Brunswick, as is also the gentleman who has succeeded him upon the bench, the Hon. George E. King, to whom the Province is indebted for her admirable system of free schools.

The Provincial Board of Agriculture has addressed a memorial to the Board of Education, praying them to take such measures as they may deem best adapted to give prominence to the study of the principles of agriculture in the schools and colleges of the Province.

"Tanner's First Principles of Agriculture" has been placed on the list of prescribed text-books.

The next annual meeting of the Educational Institute will be held at St. John, N.B., July 12th, 1881.

QUEBEC.

Towards the end of October, the Seventeenth Annual Convention of the Provincial Association of Protestant teachers was held in the City of Montreal—the great educational centre of the Province of Quebec. The railroads, steamboats, and public conveyances offered, at reduced rates, every facility to all teachers in the Province to attend this Parliament of Educationists, and it speaks well for the teachers and their professional enthusiasm that so many attended this Convention, and discussed, with no little ability, the various papers read on Educational subjects, all of a practical nature, with special bearing on all the circumstances of this Province. On the first day of the Convention, the schools of the city were kept open to allow all teachers coming from the country and a distance to see for themselves the Protestant School system in Montreal, a very choice arrangement, for apart from the admitted excellence of these schools, every conscientious, earnest teacher, who likes his profession and is devoted to it, cannot fail to learn much, and get many useful hints by seeing the systems and modes of instruction, classification, &c., adopted by others. He must be a very poor teacher indeed from whom no useful hint in the art of teaching cannot be learnt. In consequence of this wise provision for inspection of the city schools by the teachers, the Convention did not hold its first meeting for business till the evening, when the chair was taken by the President, the Rev. Dr. MacVicar, in the hall of the McGill Normal School, which was tastefully decorated for the occasion, and crowded to its utmost capacity by teachers and others interested in Education, to the number of four or five hundred persons. On the platform beside the President were Dr. Dawson, Principal of McGill College; Dr. Kelley, Montreal High School; Dr. McGregor, McGill Normal School; Dr. Robins, Secretary Protestant Board of School Commissioners, Inspector McLachlin, of Bedford, and Mr. Frank Hicks, M.A., Secretary of the Association. Letters of apology for absence were read from the Hon. Mr. Ouimet, Rev. Principal Lobley, Chancellor Henecker, and Hon. Solicitor-General Lynch. Invitations to visit McGill College, and Natural History Society's Museums were extended to the members of the Convention by Dr. Dawson and the Secretary of the Natural History Society. The first paper read was by Dr. Kelley, on text-books, and was no doubt caused by an Act of the Provincial Legislature, last session, requiring that the same text-books shall be used in all schools throughout the Province, allowing only two grades, one elementary, and the other advanced. There was no little discussion, but in the end the following resolutions were passed almost unanimously:—

1. "That it is desirable to assimilate, as far as possible, the subjects required for Matriculation in Arts, for the standing of Associate in Arts, for the Academy Diploma, and for admission to the study of the Legal, Medical, and Notarial professions, and this important matter be entrusted to a special committee, consisting of Dr. Dawson, Rev. Canon Norman, Dr. Howe, and the Hon. Solicitor-General Lynch."

2nd. "That whereas, by recent legislation, the Protestant Committee of the Council of Public Instruction is requested to revise its list of text-books before May 1st, 1881, and that this list remain unaltered for four years therefrom, a committee on text-books be appointed, to consist of the mover and seconder, and ten members, five chosen by the Central Executive Committee, and five by the Convention."

At the morning session of the second day's meeting, Mr. Parsons, the Chairman of the Committee appointed last year to amend the Constitution, read his report, which was adopted. When the new Constitution was adopted, Mr. Rexford proposed several alterations in the by-laws, which were carried. The Rev. Mr. Vial, of Quebec, then read a paper on the best principle for the classification of children in a large school. This paper gave rise to some discussion,

in which Principal Hicks and Chancellor Heneker took part. Before the close of this session, the Hon. W.W. Lynch, Solicitor-General, was cordially invited to address the meeting, which he did in a few appropriate well-chosen words, stating that some years ago he had been one of their number as a teacher, that he had ever taken and would continue to take a very great interest in everything pertaining to the education of the young, and endeavoring to raise the pay and social standing of the teacher. At the afternoon session Miss Mukler read a paper on "Teaching in the Country," in which she drew particular attention to the uncomfortable state of most of the country school rooms. Dr. Robins also read a very able paper on "The Relation of the State to Higher Education." He divided the subject into the following twelve different propositions :—

1. The good of the commonwealth alone justifies the interference of the State with education.

2. It is for the good of the commonwealth that such an education as every boy and girl of twelve or fourteen years should have, be within the reach of every child within the State.

3. Two classes within the State must now be distinguished—those who toil and those who direct the toilers.

4. Those who direct the toilers are either those who possess extraordinary natural ability, or those who have inherited an assured possession.

5. It is not for the good of the commonwealth that the school life of the masses should be much prolonged, for while nature is yet plastic they must acquire the manual dexterity and the habits of patient persevering labor, which are essential to their happiness and their success.

6. It is for the good of the commonwealth that the leader of society should have a more liberal, more thorough culture, and so a much more prolonged course of education. This is what is meant by "higher education" in my lecture.

7. In such an education only the few can participate—want of talent, want of time, want of means forbid it.

8. Every child has an equal right to share in the advantages of the common education provided by the State, but it is not just that the State should make public provision to secure for a class advantages that cannot be shared by all.

9. The child of the rich has a just claim that the State shall expend on his education as much as on that of the child of the poor man, but no more.

10. Whatsoever, therefore, the education of the child of the rich man, whether from its superior character or from its longer duration, costs more than the education of the poor man, must in justice be borne by the rich man himself.

11. But when the child of the poor man gives evidence of character and intellect so superior that he will hereafter be a leader of men, it is for the good of the commonwealth to see that he shall have, at the public cost if necessary, an education that shall soften his manners and enoble his mind.

Lastly. It is the interest of the State, then, to establish and maintain in centres of population a system of superior schools, subsidized by the State funds to the same extent as the elementary schools, but mainly supported by fees, open to all who pay the cost, and at the cost of the State to such as give evidence of extraordinary talent.

The matter was further discussed by Dr. Sullivan and Dr. Dawson. The Rev. Mr. Rexford, M.A., read a paper on "The Examination of Teachers," deprecating the present system of examination by local boards as inefficient, and not giving uniform results. This important question was further taken up by Principal Dawson, Chancellor Heneker, Inspector McLachlin, and Dr. Howe, and discussed at some length.

On motion of Rev. Mr. Rexford, seconded by Dr. Robins, the following resolution was put to the Convention and carried: "That the present system of examination for teachers is unsatisfactory, and an immediate change is necessary for the well-being of our schools, and that this unsatisfactory state of things would be removed and the well-being of our schools be ameliorated by the appointment of a central examining board with a higher standard of education."

The Rev. Canon Norman read a most interesting and instructive paper on "The Higher Education of Women." Dr. Stevenson delivered a lengthy address on "The Education of the will in relation to the intellect." He was followed by the president, Rev Principal MacVicar, LL.D., who took as his theme, "Moral Education ; its Province and its Method," dwelling specially on the following points :—

1. The standard of right, its nature and basis.

2. Right and wrong as manifested qualities of actions.

3. Conscience, or the faculty which recognizes right and wrong.

4. Freedom of the will, motives, and the cultivation of virtue in relation to conscience.

5. The fundamental relations of man to God.

6. What a man owes to himself—The care of his health; personal culture, mental, moral and spiritual ; the formation of right habits, physical, mental and moral ; the care of his reputation ; the securing of personal enjoyment or happiness consistently with the good of others ; the conservation of his rights of property, contract, citizenship, &c.

7. What a man owes to his fellow-men, considering society in three forms : the family, with its privileges, rules and obligations; the state or nation, with its constitution, laws, rights and duties ; and the community of nations, involving international relations and laws.

8. Casuistry, or the determination of cases of doubtful propriety in the light of law and circumstances.

Mr. E. W. Arthy, principal of the Preparatory High School, Montreal, read a paper on "How to teach Latin;" Miss Aimes gave a paper entitled "A plea for country teachers," the Rev. Mr. Black on "The Education of the Senses," Dr. Miles on Statistics, as to the measures taken by the Provincial government to supply superannuated teachers with pensions. Dr. Kemp read a paper on "Ladies' Colleges," and Prof. Gardner one on "Hygiene."

St. Johns, Quebec, was selected as the place of meeting for the next convention. The Rev. Dr. Miles was chosen President, Dr. McGregor, Mr. McIntosh of Granby, and Miss Macdonald of Quebec, Vice-Presidents. Mr. Hicks, who retired after 11 years' service as Secretary, was succeeded by the Rev. E. J. Rexford, B. A., ; the Treasurer is Mr. Rowell, head master of St. Ann's Street School, vice, Dr. McGregor retired ; and the Central Executive Committes are : F. W. Hick, M.A., John McKercher, B.C.L., Dr. Kelley, Messrs. Kneeland and Pearson, Mrs. Fuller, Miss Smith, St Johns, Miss Minkler, of Granby ; Mr. Stevens, of St. Johns, Mr. E. R. Smith, of St. Johns; Inspector Hubbard, Sherbrooke, and the Rev. Mr. Fothergill, Inspector.

A meeting of the Protestant Committee of the Council of Public Instruction was held on the 24th November, at which much important business connected with the Protestant education of the Province was transacted, the details of which will appear in the next issue of the JOURNAL.

MANITOBA.

At the June meeting of the Council of the University of Manitoba, certain resolutions were introduced by Professor Forget Despates which led to a lengthy and animated discussion, and which were remitted to a special committee. A copy of these resolntions will be found in the July number of the JOURNAL. At the meeting of Council which took place on 2nd Dec. the committee submitted the following report, which, on motion of the Rev. W. C. Pinkham seconded by the Hon Mr. Justice Dubuc, was unanimously adopted :

REPORT OF THE COMMITTEE ON EXAMINATIONS.

The committee beg respectfully to submit the following recommendations as their report :—

The examiners for each subject shall prepare three sets of papers for that subject. These papers shall, as provided by previous statute, be submitted to the whole body or board of examiners, who shall elect a chairman. The papers, as approved, shall then be remitted to the examiners for the several subjects, who shall prepare the number of copies requisite for the examination. The copies of each paper shall be enclosed by themselves in a sealed envelope, having the subject marked on the outside—all the envelopes being of the same kind. At a meeting of the board of examiners, at a time appointed at their previous meeting, the envelopes shall be handed in and put together in a box. The chairman shall then, in the presence of the board, draw out successively the envelopes containing the papers. The papers for any subject shall be those in the first envelope selected containing papers on that subject. The papers not selected shall remain unopened, in the custody of the chairman, till after the examination. The selected papers shall be kept by the chairman in a locked box. and shall be delivered before each examination to a messenger who shall be appointed by the board of studies. This messenger shall hand them to the presiding examiner. The board of studies shall furnish to this second meeting of examiners the programme of the several examinations. The board of examiners shall for each ex

amination nominate two of their number, who, either personally or by substitute, shall be present at such examination.

That the students be required to fasten their papers together with fasteners provided for the purpose, and that every sheet be marked as directed by the board of studies.

(Signed) R. RUPERT'S LAND.
Chancellor.

The Board of Studies reported that the following gentlemen had been nominated as University examiners for 1881:

In Classics: The Rev. Professors Forget, O'Meara and Hart. In Mathematics: The Chancellor, the Revs. Prof. G. Cloutier and A. Campbell, B.A. In Natural Sciences: The Revs. Prof. Bryce and A. A. Cherrier and H. Archibald, B.A. In Mental Philosophy: The Revs. Dr. Lavoie, J. Robertson and A. E. Cowley. In Modern Languages: The Revs. O. Fortin, B.A., and T. J. Quevillon, and A. C. Killam, B.A., and the Council confirmed the nomination. Their report also included the following recommendations, which are given in full because it it is believed that they will interest readers of the JOURNAL:

That any student taking the ordinary B. A. course may pass upon any five of the eleven papers of the final examination for that course one year after passing the previous examination, taking the six remaining papers the year following, or at any subsequent examination.

That it has been considered advisable to divide the honor examination in classics into two parts, after the manner of some of the other honor courses, and also to define more precisely the papers in Latin and Greek grammar, and in Roman and Greek history in classical honors.

It has accordingly been decided to recommend that two of the four papers on Latin and Greek authors required by Statute XVII, first part, one paper in Roman and Greek history and one paper in Latin and Greek grammar, may be passed one year after the candidate has passed the regular previous examination, the following to be the Latin and Greek authors for the two papers above mentioned:—

Cicero, "De Senectude;" Livy, "Books II and VI;" (Æneid;) Horace, "Book I, (Odes);" Lucian, "Charon and the Vita;" Homer, "Iliad, Book III;" Zenophon, "The Memorabilia, Book I."

The schedule on Latin and Greek grammar for this examination has not yet been completed.

For Roman and Greek History the following works are recommended:—For English, Smith's Smaller History of Rome and Smith's Smaller History of Greece; for French, "Histoire Ancienne, par Chautenel, Romaine et Grecque."

That the following resolutions relating to the medals, etc., be recommended for adoption:—

There shall be awarded annually a silver medal to the student standing first in honors who has obtained first class in any one course at the final examination for B.A.

There shall be further awarded a bronze medal to the student standing second in any honor course at the final examination for B.A.

These shall be called university silver and bronze medals respectively.

For the equitable awarding of the Governor-General's silver medal the following regulation is recommended: that the different honor courses shall receive this medal in the following order:—mental and moral sciences, 1881; classics, 1882; mathematics, 1883; modern languages, 1884; natural sciences, 1885.

In case of failure to reach the standard required in any honor course, the next in the preceding order shall be taken.

The Governor-General's medals shall take the places of the University medals in the honor course in which it is awarded.

The Governor-General's bronze medal shall be awarded to the first in the order of merit at the previous examination in the subject of classics, mathematics and botany completed together, provided that the successful competitor shall also have taken first class in all the subjects of the previous examination completed together.

The examination of B. A. degree in honors in mathematics shall be divided into two divisions. A candidate may appear for examination for the 1st division at the end of one year from the regular previous examination at which he first attended, and for the other division, or the two together, at the end of two years from the said previous examination, but not sooner. The 1st division shall consist of the papers of the 1st part in geometry and conic sections, arithmetic, algebra, trigonometry, statics and dynamics, hydrostatics and optics; and the papers of the 2nd part in algebra, theory of equations and trigonometry, and the 2nd division shall consist of the remaining 7 papers.

The Rev. W. C. Pinkham gave notice that he would move, at the next regular meeting, for the appointment of a special committee to consider the question of the higher education of women, with a view to bringing it within the scope and aim of our university work. Professor Hart expressed his intention of seconding the resolution.

Readers of the JOURNAL who know Professor Bryce, Principal of Manitoba College, will learn with regret, that he is suffering from over-work. He has gone to Ontario on a short visit to take the rest which his physicians have recommended.

The Protestant Board of School Trustees for the city of Winnipeg, have decided to advertise for an inspector for their schools, for the year commencing February 1st, 1881. Application must be made before the 11th day of January. The salary offered is $1,000. The census of Protestant children for the city of Winnipeg, from the age of five to the age of fifteen years inclusive, taken during the month of November, places the number at 1,090.

PRINCE EDWARD ISLAND.

PRINCE EDWARD ISLAND EDUCATIONAL ASSOCIATION ANNUAL CONVENTION.

The first annual convention of the P. E. Island Educational Association opened on Thursday, Oct. 21st, in the public hall of the Upper Prince Street School, D. Montgomery, Esq., Superintendent of Education, in the chair. The meeting was called to order at 3 o'clock p.m.

Mr. Joseph D. Seaman was appointed Secretary of the Convention.

A committee on organization, consisting of Neil McLeod, Thos. McKinlay, H. Dennis, Ewen Stewart, and Joseph D. Seaman, was appointed.

Messrs. Neil McLeod and N. A. Stewart briefly addressed the convention on the object of the meeting and work of Educational Associations.

Miss Maria Lawson read a paper on "Honesty." What has this to do with schools and school-teachers? Can we change these things if we would? We have an influence upon the legislators, merchants, tradesmen, wives and daughters of the future. Perhaps of none except parents can it be said so truly as of teachers that

"Our echoes roll from soul to soul,
And grow forever and forever."

The child's first experience of the world is as a scholar. Here for the first time he enters into competition with his fellows, and he must be kept from tyrannizing over those who are weaker than himself, or overreaching those who are stronger. While we impart book learning, are we careful enough to check at the very outset the slightest tendency in the direction of dishonesty, or do we try to promote principles of honesty and uprightness among the pupils? Dishonesty manifests itself amongst children in various ways, as theft, truancy, shirking of work. To remedy this last, the teacher himself should do his own work faithfully, and see that the work given to the pupil was well within his capabilities, so that he be not discouraged. A temptation to dishonesty is found in the tendency to copy. It is hard to make a child believe that it is really wrong to receive half from his neighbor, and still harder to persuade the helper that he is doing his friend not a benefit but an injury by allowing him to copy his work. Self-reliance is the sworn foe of dishonesty. Honesty may be encouraged by never allowing a child to put the blame of his own faults on his neighbor's shoulders. The merit card, unless very judiciously used, becomes a temptation to dishonesty. But the best means to prevent dishonesty is for the teacher himself to be a living example of honesty. Let us with frank, truthful earnestness endeavor to do our duty, so that our scholars looking upon us will see examples of that honesty to which the great Master gave the highest sanction when he said, "Therefore all things whatsoever ye would that men should do unto you, do ye even so unto them."

A discussion followed the reading of this paper after which the convention adjourned till the following day.

In the evening an enthusiastic and profitable public meeting was held, at which addresses were delivered by Rev. G. W. Hodgson, Hon. L. H. Davies, Prof. J. B. Calkin, Truro, N.S.; Rev. John McKinnon and E. J. Hodgson, Esq.

Second Day.—Morning Session.—The President took the chair at 10.30 o'clock, a.m. Miss Emma Ball read a paper on "Reading."

Reading, the most important of all branches, being the key to all other branches of knowledge, is generally but poorly taught, not

on account of wilful neglect on the part of the teacher, but because he has too many reading classes and is required to hear them too often in order to satisfy parents and trustees. Mere naming words is not reading any more than mere daubing a canvas with paint constitutes a finished and life-like picture. A good reader is one who renders a selection in a clear distinct voice, pleasant to the listener, and with such inflections and emphasis as will interpret correctly the meaning of the author read. To attain this, first lessons must be good ones. The dull repeating of the alphabet day after day, and the meaningless sentences given as lessons, have done much to give children a dislike for reading. Teach the child that letters and words are pictures of sounds uttered by him every day. The sentences first given should be those which he can understand. As the pupils progress, guard against faults such as drawling, mispronunciation, etc.; audibility, distinctness, etc., will need to be patiently taught. A good general rule for reading is that they read naturally. A thorough and just understanding of a passage is the best guide to its expressive delivery. In a reading lesson, question the pupils to see that they understand what they are about to read. Drawling is caused by pushing children forward into books for which they are not at all fit. The children must be able to pronounce every word in their reading lesson without hesitation, to avoid drawling. We cannot expect to make our pupils accomplished elocutionists; with so many under our care it is impossible for us to go into the niceties of elocutionary drill, but we may and ought to expect our pupils by our guidance to become good intelligent readers. And if we succeed in doing this, we have placed with them a source of enjoyment to themselves and those with whom they will associate which will last long after our connections with them as teachers have ceased to be.

Mr. Neil McLeod opened the discussion of the subject of "School Discipline" in an excellent paper, which if space permitted we would like to report.

Afternoon Session.—The committee on organization submitted their report, which on motion was adopted.

The officers for the ensuing year were elected with the following result:—President, D. Montgomery, Esq.; Vice-Presidents, Neil McLeod, Esq., C. H. Ives, Esq., Ewen Stewart, Esq., and Miss Annie L. Smith; Secretary-Treasurer, Joseph D. Seaman; Corresponding Secretary, Miss Emma Barr; Executive Committee—President, Secretary, Miss E. E. McKinnon, Miss Maria Lawson, Gamaliel Gillies, John McRae and Thomas McKinlay.

Mr. C. H. Ives read a well-written paper on "Eye Teaching," which was well received by the association.

The association adjourned till evening, and met at eight o'clock. Instead of a regular association meeting the doors were thrown open to the general public. The attendance was large. Interesting addresses were delivered by Prof. Calkin, Thos. Le Page Esq., H. Lawson, Esq., and Rev. Dr. Murray.

The association then adjourned to meet again in the month of October. 1881.

Teachers' Associations.

The publishers of the JOURNAL will be obliged to Inspectors and Secretaries of Teachers' Associations if they will send for publication programmes of meetings to be held, and *brief* accounts of meetings held.

ELGIN.—The semi-annual convention of this Association was held in the Collegiate Institute, St. Thomas, on the 10th and 11th ult., Mr. R. C. Inglesby, President, in the chair. At opening, the attendance was small, but during the course of the day was largely increased. The minutes of previous meeting were read by Mr. N. W. Ford, secretary, and adopted. Mr. Cook, treasurer and librarian, gave a good report of the financial condition of the association, there being a sum of $65.81 to credit. He said that although they had the best teachers' library in the Province, he regretted to say it was very little used or appreciated. Messrs. Leitch, Broderick and Birk were appointed auditors. Mr. A. F. Butler, I.P.S., deplored the apathy of the teachers in not availing themselves of such an excellent library. He thought the next best thing to that was a good periodical, and bore testimony to the real scholarly ability with which the CANADA SCHOOL JOURNAL was conducted, and hoped the teachers would all subscribe for it. On the motion of Mr. Ford, seconded by Mr. Cook, the actual expenses of the executive officers in attending committee meetings were allowed.

A letter from Prof. Payne, Ann Arbor University, was read, apologising for his absence through illness.

Mr. N. W. Ford, in commencing an attractive programme, took up "Infinitive participles and gerunds," and entered into some of the most difficult forms in which they occur in a manner which displayed his thorough knowledge of the subject. Several questions were put by the president and some of the members, which were answered promptly and intelligently.

A reading, "The Schoolmistress," given by Miss Hickcox with much taste and considerable ability, was greatly appreciated, and on the proposition of Inspector Butler, seconded by Mr. J. Miller, M.A., she was accorded a warm vote of thanks.

In the afternoon, Mr. McAlpine demonstrated his method of teaching "Elementary Arithmetic." He went on the practical system of illustrating results in each rule, and recommended self-reliance with development of thought as the most successful plan for securing a useful knowledge of the science. He said he would give simple ideas of fractions before teaching reduction.

Mr. J. L. Robertson, business manager of the CANADA SCHOOL JOURNAL, was permitted to address the meeting relative to the circulation among the teachers in the county of the periodical he represented.

Mr. J. Millar, B.A., Head Master of St. Thomas Collegiate Institute, said a good educational periodical is a thing that teachers cannot do without, but it was their duty to see that they were not deceived in the article they got. Mr. Sutherland had offered the *Hamilton School Magazine* for 50 cents a year, but if he could not get that he would take less. It was no use to try to disguise the fact that this magazine is an advertisement for the Hamilton Collegiate Institute, and he looked upon it as a "cheeky thing" (applause) for anyone in connection with that school to come there and advocate their special organ. He did think the agent was a gentleman, but if he linked himself with those who desired to push through the country the high-sounding merits of the Hamilton Collegiate Institute he did what was very unwise. The ruse was unmasked in St. Catharines, and it would be dealt similarly with in Elgin County. What would be the result if St. Thomas Collegiate Institute or any other acted in the same way to attract students from other counties where they could be equally well taught? He denounced the practice as highly detrimental to the cause of local education, and one that ought not to be countenanced. He knew the CANADA SCHOOL JOURNAL from the commencement of its publication, and it has always occupied an independent position, and is, strictly speaking, the only national paper for teachers in the Dominion (applause). He concluded by proposing the following resolution: "That a committee, consisting of Messrs. Butler, I.P.S., Leitch, McKay, the President, and the mover, be appointed to procure on as favorable terms as the funds will permit, a copy of the CANADA SCHOOL JOURNAL for each member of this Association." Mr. Dudley seconded the motion. Mr. E. McKay, B.A., Head Master, Aylmer High School, endorsed the opinions expressed by Mr. Millar, and strongly condemned the system of puffing which the Hamilton Collegiate Institute had adopted, in the shape of a magazine having for its plausible object the teacher's practical help; but the essence of the publication is to advertise the Collegiate Institute at the expense of the teachers. The motion was put and carried without a dissentient.

In the absence of Mr. Burdick, of Aylmer, Mr. Butler, I.P.S., gave an eminently practical address on "How to conduct a class in 4th Reader." It abounded in original thought, and conveyed so much excellent advice and instruction that it was greatly appreciated.

A meeting was held in the Knox church in the evening, which was well attended. Mr. E. McKay ably occupied the chair. Addresses were delivered by Messrs. Butler and J. Millar on "The Relation of Poetry to Education," and on "Higher Education" respectively, both of which elicited the highest commendations. Music was supplied by the Misses Hammill and Raymour, and Mr. J. L. Robertson.

Second Day.—The exercises were commenced at 9 a.m. with an essay on "Making pupils think," read by Mr. S. Weir, Fingal Public School. He pointed out how study could be developed and promoted in every branch of school instruction, which would not only be of benefit to the pupils but also to their parents, and do away with much of the irksomeness of home lessons.

Mr. G. W. Littlejohn, Yarmouth, read a very interesting paper on "Grammar to a 4th Class," illustrating his subject by some ingenious devices designed to fix the pupils' thought and attention.

Mr. H. Clay, Wallacetown, in addressing the meeting on "Reading in our Public Schools," dealt with the matter with an ability hardly to be expected in one so young.

By request, a reading was given by Miss Inglesby which was greatly admired, after which the Convention adjourned, to meet again at the call of the Executive.

The committee on CANADA SCHOOL JOURNAL met and decided to give a copy of the JOURNAL to every member of the Association who had paid up the membership fee.

PEEL.—The semi-annual meeting of this Association was held in Brampton High School on the 17th and 18th ult. The President, Mr. A. Morton, called the meeting to order at 9 a.m., at which time there were very few members present. During the course of that session, and in the afternoon, the numbers were, however, considerably augmented. Mr. D. McKay, secretary, read minutes of previous meeting, which were adopted, after which some routine business was transacted. The President then read a very practical paper, bearing on Teachers' Conventions. On the motion

of Mr. McKay, seconded by Mr. Murch, it was unanimously carried that "the publishers of the CANADA SCHOOL JOURNAL be requested to publish the address in their Journal."

Mr. McDonald presented the report of the Committee on Text-books. It recommended Kirkland and Scott's Elementary Arithmetic as the best of its kind, and also Lovell's Advanced Geography, if not too expensive.

There was a great deal of discussion with respect to introducing the latter book into the schools of the county, but the whole report was postponed for a fuller attendance in the afternoon.

Mr. Wismer, first Vice-President, tendered his resignation of that office in consequence of his appointment to Parkdale Public School. After some remarks complimentary to Mr. Wismer, the resignation was accepted, and on the proposition of Mr. Ludlow, seconded by Mr. McDonald, Mr. Murch was unanimously elected Vice-President. A committee, consisting of Messrs. Murch, Ludlow, McKinnon, I. P. S., Wismer, and the President, was appointed to consider place of next meeting, and to report whether it would be advisable to have township meetings, as a difficulty existed in getting members to attend a central Convention.

In the afternoon, Miss Grey read a very sensible paper on "The benefit derived from Calisthenic Exercises." On the motion of Mr. McDonald, it was agreed to ask the publishers of the CANADA SCHOOL JOURNAL to give it also a place in its columns.

Mr. Donnelly then gave a few remarks on the plan of the Teachers' Superannuation Fund, which he said would be as difficult to arrange as trying to have weather to suit everybody.

In order to illustrate the system of Drill and Calisthenics pursued in the Queen Street School, Brampton, a third class from that school was marched in by Miss Brown, their teacher, and "put through their facings" in admirable style. The healthful appearance and good physique of the girls showed that their exercise agreed with them, and they seemed to take delight in being up for inspection. Miss Brown's decisive tones of command are well adapted to ensure precision. A noticeable feature in the drill was "chest and lung development," and the utterance of words strongly aspirated. After the children retired, a discussion on the merits of the system was carried on for some time, chiefly by Messrs. McKinnon, Murch, Wismer, McDonald, and the President.

The subject of an educational periodical for the Association was then considered, and after a short debate a motion of previous meeting, allowing half the price of a journal to each member, was rescinded. Mr. Noble proposed "that the whole of the price of the CANADA SCHOOL JOURNAL be taken out of the funds, and that each member of the Association be furnished with a copy." Motion seconded by Mr. Wismer, and carried.

Miss A. Wallace read "The Painter of Seville," in a manner that elicited the highest encomiums, and on the motion of Mr. Hastings, seconded by Mr. Robinson, she received the thanks of the meeting, which were given by acclamation.

Mr. Murch explained his method of distinguishing between the true infinite, the gerund, the imperfect participle and the verbal noun. His plans were considered very satisfactory and conclusive.

Second Day.—Inspector McKinnon showed, with a third class from the public school, how he would introduce "History" to beginners. A discussion on the use of text-books on History followed.

Messrs. Allen, White, and Robinson were appointed a committee on the next place of meeting, and they reported: (1) That there be four conventions of one day each, held in different parts of the county; (2) That the places of meeting be as follows:—Alton, Bolton, Brampton and Streetsville: (3) That the meetings be held one day in each town, namely, on a Friday and Saturday, to be determined by the Executive, in the two former places, and on the following Friday and Saturday in the two latter. The report of the committee was adopted. In reply to a member, Mr. McKinnon stated that these four meetings would count as one of the Association. The President invited those who may attend at Brampton, to a dinner that will be provided.

The report of committee on text-books was taken up. Kirkland and Scott's Elementary Arithmetic adopted; no change to be made in the Geography at present. Several clauses relating to the Superannuation Fund were passed.

Mr. D. McKay showed his method of teaching factors in "Algebra," and their application. Discussion on the teaching of "Grammar" followed.

Mr Galton, Classical Master, Brampton High School, thought it would be an advantage to pupils if composition were practised more, and less time taken with analysis. In this idea Inspector McKinnon coincided.

Adjourned.

EAST BRUCE.—The Teachers' Association of this county met on the 3rd and 4th ult. in the Public School, Paisley. As the President and Vice-President were both absent, and the attendance of teachers very meagre, no business was done in the forenoon of the first day. In the afternoon, about fifty members were present, but the presiding officers were unavoidably prevented from attending. In their absence, Mr. W. R. Ducker, Principal of Burgoyne School, was moved to the chair, which he ably filled during the Convention. The minutes of previous sessions were read by Mr. C. F. Ming, Secretary, and confirmed. He also read letters of apology from Mr G. W. Ross, M.P., and Mr. J. L. Hughes, who were invited, but could not attend. Mr. Ducker read a paper on "Order, and how to secure it," in which he showed that the teacher's own manner was a guide to the school. The teacher should not be noisy; he should vary the exercises; small pupils should have an extra time for recreation in fine weather; the pupils should be interested in their business, discipline should not be overdone, especially in graded schools; too many rules should not be made, but those framed must be strictly obeyed. The paper was considered well worthy of the attention of the teachers.

Mr. McCannell very practically illustrated his method of teaching "Reduction" to young children. In reply to Mr. Ritchie, he said he would explain the principles of the rule and its simple workings previous to teaching fractions. Mr. Ming and the chairman criticised the exercise. On the motion of Mr. Ming, seconded by Mr. McCannell, it was unanimously decided to apportion a part of the funds of the Association towards obtaining the CANADA SCHOOL JOURNAL at club rate for the members.

Mr. J. L. Robertson demonstrated the Tonic Sol-fa Method of teaching "Singing at Sight," which greatly interested those present, and for which he received the thanks of the meeting.

In the evening, matters connected with inspection reports were brought forward and discussed, but they possessed no public interest.

The forenoon of the second day was occupied with the "Question Drawer," which, though pretty full, was disposed of with wisdom and skill by Messrs. Ducker and Ming. The subject of the previous evening was also resumed. Some general business was transacted, after which the Convention closed.

EAST VICTORIA.—The Convention of this Association was held in the Cambridge Street School, Lindsay, on the 26th and 27th November. In the absence of Mr. John Shaw, M.A., president, Mr. W. E. Tilley, Vice-president, called the meeting to order at 9 a.m. on the 26th. Minutes of previous sessions, read by Mr. J. H. McFaul, secretary, were adopted.

Mr. Grigg read a very interesting paper on "Literature," which was afterwards discussed with much ability by Messrs. Knight, I.P.S., Junkin and Sherwood. Mr. H. Reazin, I.P.S., West Victoria, gave a very practical lecture on "Teaching Reading to Beginners," which gave rise to sharp questioning by the members, and important information was elicited. In the afternoon, "Difficulties in Grammar" were well handled by Mr. J. H. Knight, I.P.S., and equally well debated by Messrs. McFaul, Junkin, Irwin, the Vice-president and others.

Mr. J. H. McFaul illustrated, with a class, how he would teach the simple rules of Arithmetic, and his method appeared to give great satisfaction. The Convention met in the evening in the Town Hall, Dr. G. A. Norris, of Omemee, Warden of Victoria, in the chair. Mr. J. H. Knight read a paper bearing on "The relation of Music and Reading with respect to Teaching." Messrs. Seymour and Andrews contributed some selections of instrumental music, which added considerably to the attractions. Votes of thanks were accorded to the Town Council for use of hall, to the Chairman, and to those who took part in the evening's entertainment.

Second Day.—Mr. G. Suttee read a well-written paper on "Entrance Examinations," or rather "Compulsory Promotion Tests." He thought the Inspector was the best judge of the children's proficiency, and could without impartiality advance them; whereas if it were left to the teacher he might be influenced by a desire to get a good name, or by parents to push them forward, making the state of the school very awkward for his successor. He would be in favor of the adoption of the system of uniform promotions at simultaneous examinations. The subject led to a general discussion, which was maintained with spirit and skill by Messrs. Junkin, Grigg, Sherwood, Irwin, Reazin, and McFaul; some taking the view of the essayist, and others that the conscientious teacher should know best whom to promote. The chairman did not consider written examinations the best test of a child's knowledge, but as regards promotions, some decided step should be taken to secure uniformity.

Mr. Reazin then gave a brief history of Grammar, and showed that there was need of uniformity on that subject also. He recommended practical teaching, and that the teacher should note errors overheard from the children and correct them. He knew teachers who were well acquainted with Grammar that spoke bad English, and he humorously illustrated his remarks. He would begin teaching the subject before using a text-book. In the debate which followed, several good suggestions were thrown out.

Mr. W. E. Tilley took up "Algebra," and worked out in a masterly manner several difficult operations. Votes of thanks to Mr. Reazin for his instructive addresses, and to Mr. Knight for his lecture the previous evening brought the proceedings to a close.

BRANT.—The semi-annual meeting of this Association was held in the Collegiate Institute, Brantford, on the 19th and 20th November. The attendance was not so great as was expected, but a sufficient number of teachers, including those in training at the Central Model School, were present to make the proceedings interesting. The discussions on the several subjects were well sustained, and were successful in eliciting much information of real practical value to the members. The President, Dr. M. J. Kelly, L.L.B., called the meeting to order at 10 a.m. on the 19th. The minutes of previous convention were read by Mr. W. Rothwell, Secretary, and approved; also a statement of accounts, which was handed over to the Auditors, Messrs. Williamson and Mackintosh, to report on. The

president then read his opening address, on "Some features of our present Educational system." He deplored the attacks made by politicians upon the Minister of Education, which seemed to indicate that school business was fast drifting into politics; a state of things that every true man should set his face against. He thought the whole system needed remodelling, especially the School trustee arrangement; and although the County Model Schools had done much good, he was of opinion that the two Normal Schools would supply sufficient teachers, as many at present are unable to obtain schools. In school work he would wish to see more done in languages and English literature, which, in importance and utility exceed mathematics, for there was too much prominence given to the latter subject in schools. He concluded an able, practical address by giving some excellent advice, particularly to the young teachers present. In the discussion which ensued, Messrs. Rothwell, Wilkinson, McIntosh and Baptie took part, and afterwards Mr. Wilkinson proposed, and Mr. McIntosh seconded, a cordial vote of thanks to the president, which was carried with applause. Mr. A. T. Watson took up "How to teach Reading," and as he was furnished with 1st, 2nd and 3rd classes from the Brantford North Ward School, he had ample opportunity for exhibiting his system. He used the phonetic arrangement for the youngest class, and the alphabetic for the more advanced. As the subject was rather a prolific one, he was allowed a portion of the afternoon to finish it. In the afternoon Mr. J. White gave an excellent sample of his method of teaching "Vocal Music" in Schools. His aim was to lead children to sing at sight, and as he was self-instructed in the art, his plans bore the stamp of much ingenious thought and originality. At the conclusion he sang two sweet songs, accompanying himself on the guitar, which, together with his instructive lesson, earned well the vote of thanks that, on the motion of Mr. McIntosh, seconded by Mr. Watson, was warmly accorded. Mr. Alex. Burke read a first rate paper on "How to conduct a Recitation." It was so replete with practical hints and wise suggestions that not a single pin could be found in it whereon to hang a demurrer for debate. Mr. Watson then continued his "Art of teaching Reading," taking each of the classes separately, and handling the subject well. The distinct utterances and pleasing modulation which marked the performance of the little ones provoked a burst of acclamation from the meeting which must have been very gratifying to their teacher, Miss Agnes C. Purves, on whose instruction they reflected great credit. Mr. Wm. Rothwell took up the "Assignment of Home Lessons," and spoke on the subject with much skill and practical knowledge. He would give no home lessons to children under 10 years, and very little after that up to 14 years. He thought school was a place for instruction, home for physical exercise and rest. The parent should get some of the child's time, which ought not to be entirely absorbed by the teacher. The students who attended high schools might be crammed as full as they please both in school and at home, but he was governed by his opinions as a parent in favor of short home lessons to grown children only. The distraction of things at home prevented complete study, which, to be practical, should be mainly performed in school under the teacher's guidance. Mr. Rothwell's remarks were ably commented on by Miss Purves, Messrs. Baptie, Wilkinson, Hodgson, M.A., Cook, Rev. Dr. Ryckman, and Rev. Mr. McIntyre, principal of Brantford Young Ladies' College. Rev. Dr. Ryckman offered prayer, after which the meeting adjourned.

In the evening, Mr. J. M. Buchan, M.A., High School Inspector, delivered a lecture on "The Origin of the English People," in the Reception Room of the Collegiate Institute, Dr. Kelly, L.L.B., presiding. The meeting was largely attended. The subject was worthy of the learned lecturer, and was dealt with in a style which indicated a deep research into the annals of our progenitors. At its conclusion, Mr. Hodgson proposed a vote of thanks to the lecturer, which, being seconded by Mr. Petch, was passed with hearty applause.

The time of the second day was occupied chiefly by Mr. Buchan, M.A., who took up "Grammar" as his subject, giving its history from the earliest time. His extremely correct and lucid details, and his practical suggestions on imparting this difficult branch to young children, were highly appreciated. On the motion of Mr. W. Wilkinson, seconded by Mr. Patton, a cordial vote of thanks was passed unanimously to Mr. Buchan.

Mr. J. J. Settell brought forward the subject of the "Teachers' Superannuation Fund." He read copious extracts from the "Regulations," and also read some passages from an article on the matter in the Canada School Journal; but although he knew there were many points needing re-adjustment, he was not prepared to submit a plan for the adoption of the Association. He thought the annual subscription should be $8 instead of $4, and that no difference should be made in favor of inspectors, high school masters or lady teachers. After some discussion, Mr. Wilkinson moved that it be referred to a committee to frame resolutions for next meeting of convention, which being seconded, was unanimously adopted, and the following were appointed: the Misses Purves, Woodyatt and Duncan, with Messrs. Kennedy, Shaisgrain, Patton and Rothwell. The meeting then adjourned.

North Perth.—The members of this association met in the High School, Stratford, on the 12th and 13th ult. There was a fair attendance, comprising teachers in training at the Model School. The proceedings were opened at 10 a.m. on the 12th by Mr. B. Bothwell, president. Mr. Munro was appointed secretary pro. tem., and read the minutes, which were adopted. In his opening address the President dwelt very practically on the importance and responsibility of the teacher's work. He regretted the absence of many of the teachers, but could not blame some of them who were unable to attend in consequence of the inadequacy of their salaries—many getting only about $200 a year. He said it was a pity to see some of them receiving a salary equal to that paid to kitchen-maids. The profession has lost some of its best men and women, and a number of the ablest minds are gone out of it through the parsimony of trustees. He knew of a case where the trustees of a school wanted a first-class "A" man and offered him the generous salary of $400 a year. He (the president) could hold out very little encouragement to the young teachers present who were preparing to enter an overcrowded profession.

Mr. G. W. Ross, M.P., who was warmly greeted on entrance, gave a very practical address on "How to deal with indolent pupils." This he classified as follows:—1. Make him very comfortable; 2. Have his work attractive; 3. Infuse him with some of your own spirit. Mr. Ross dilated on these headings with his usual ability and clear conception. He then proceeded to exemplify how to teach Reading to a first class. In the afternoon Mr. Ross resumed his exercises, selecting "School Routine" as the subject. He illustrated the several points with a class of the model school teachers present, putting them through the different motions required to secure quiet action, system, and attention in a school. In dealing with his scholars a teacher should be quiet, watchful, prompt, energetic, active, pleasing, firm, kind, sincere, dignified, polite and cheerful; his influence should be felt, and his word respected.

Mr. J. W. Laird read a paper on "Time Tables," showing how the school hours might be disposed of to advantage. The paper was criticized by Messrs Ranton and Hoskins.

Mr. Ross again interested the meeting by taking up the subject "The Art of Reading and how to teach it." In concluding this exercise he recommended the cultivation of a taste for pure and refined literature to counteract the desire for trashy publications. In the evening an open meeting of the Association was held in Princess Hall. There was a very large and respectable attendance. On the motion of Mr. Alexander, I.P.S., the chair was taken by Mr. Hesson, M.P., and surrounding him on the platform were Rev. Mr. Walker, Rev. Mr. McPherson, Rev. Mr. Clement, Rev. Mr. Patterson, and Messrs. G. W. Ross, M.P., and Wm. Alexander, I.P.S. After a few preliminary remarks the chairman called on Mr. Laird, who gave a reading "The Old Birch on the Wall;" Miss Shannon read "Maud Muller" very effectively and was warmly applauded, Miss Campbell recited with deep feeling and pathos "The Last Hymn." In reply to an urgent *encore*, she sang and recited "Rock of Ages" by special request, which was rapturously received. Mr. G. W. Ross then gave a splendid address on the "Intellectual Faculties of Children." On the motion of Rev. Mr. Patterson, seconded by Rev. Mr. Clement, a hearty vote of thanks was passed enthusiastically to Mr. Ross. Votes of thanks to those who contributed to the evening's entertainment, and to the chairman, concluded a most satisfactory evening.

In the forenoon of the second day there was a better attendance. Mr. Hogarth read a very interesting paper on "Vocal Music," and showed how it might be taught to children with advantage.

Mr. G. W. Ross was then specially called on to give his concluding address, in which he dwelt forcibly on the teacher's duties in relation to himself, the trustees, the school, the parents of the scholars, and society. The thanks of the association were tendered by rising vote to Mr. Ross for his valued assistance in the exercises of the convention, and his brilliant lecture on the preceding evening. A short paper on "Mathematical Geography" was read by Mr. J. Treemer, B.A., after which Mr. J. Wilson, B.A., answered "Grammar Difficulties" fonnd in the question drawer. A club was formed in the association to subscribe for the Canada School Journal.

The remainder of the business of the convention was of a routine nature, after transacting which it was adjourned.

West Victoria Teachers' Association.—The seventh annual meeting of this Association was held in the public school, Woodville, on Friday and Saturday, December 10th and 11th. The President, Mr. Reagin, P.S.I., opened the meeting with a brief and appropriate address. He dealt with many of the more common mistakes on the part of Teachers, and suggested how these might be removed. Mr. Knight, P.S.I., read a very interesting and instructive paper on "Reading," taking many quotations and dealing with the *natural* system of accent and emphasis Mr. Gilchrist then gave an interesting lecture on "Mensuration," dealing with it as if teaching a junior class not familiar with either Algebra or Euclid. In the afternoon Mr. McGann took up the subject of "Pestalozzi," and read an essay on the biography of this celebrated educator. He was succeeded by Mr. P. H. Allen on "Mental Arithmetic," with which he dealt very ably. After a short intermission, Mr. McDougall took the subject of "Fractions," and explained his method of teaching the first lessons in them by means of illustrations. A short discussion followed, Mr. Reagin and Mr. Davis taking part, each strongly recommending Mr. McDougall's method. Mr. McRae followed with "first Lessons in Grammar," elucidating his method of teaching it to a

young class. The convention then adjourned till 7.30 p.m., when Mr. Reagin introduced Mr. Davies, M.A , of Pickering College, who delivered his interesting lecture, "An Evening with Addison." Saturday the programme was resumed, when Mr. McEachern took the subject of "Literature," taking a selection from the Fourth Book and explaining his method of teaching it to a class. He was succeeded by Mr Pritchard with "Class Recitations," pointing out many errors which teachers fall into, and showing the necessity of previous preparation on the part of teachers, also the necessity of much variation. Mr. Allen continued the subject of Mental Arithmetic, giving black-board illustrations of introducing the various rules of arithmetic. Messrs. Reagin, McLaughlin, and McEachern then gave a continuation of the same. Convention then adjourned.

R. A. Dickson, Secretary. H. Reagin, President.

REVIEWS.

We have received four volumes of Messrs. Ginn & Heath's new series of Annotated English Classics, viz , Much Ado About Nothing, As You Like It, Twelfth Night, and King John. These are edited by the Rev. Henry N. Hudson, Professor of Shakespeare in Boston University. Each play is furnished with a valuable introduction, good notes explanatory of the meaning at the foot of the page, and critical notes on the more important various readings at the end of the volume. Much Ado About Nothing contains, in addition, a life of the poet, and remarks on the use of Shakespeare as a text-book. The other volumes contain a very useful and suggestive preface on "How to use Shakespeare in School." This preface, to any one wishing to gain ideas as to how literature should be taught in school, is worth many times the price of the little book. Mr. Hudson's notes are not so copious as those in Rolfe's series or the Clarendon Press series, but he knows much better what he is about than their editors. The beneficial effects which the study of literature is capable of producing, are produced by bringing the mind of the reader into contact with that of the writer, and this process is hindered when the test is overlaid with notes. "The thing to be aimed at before all others is," says Mr. Hudson, "to draw and hold the pupil's mind in immediate contact with the poetry, and such a multitude of mincing questions and comments is just a thick wedge of tiresome obstruction and separation driven in between the two. In my own teaching, my greatest fear commonly is, lest I may strangle and squelch the proper virtue and efficacy of the poet's lines with my own incontinent catechetical and exegetical babble." We commend this series to the educational public as being cheap and well printed, but, above all, as being the work of a man who is a good teacher as well as an eminent scholar.

A Short History of the Norman Conquest of England. *By Edward A. Freeman, D.C.L., LL.D. Oxford: Clarendon Press Series. Pp. 156.* Received from Willing & Williamson, Toronto.

"I have here told," says Dr. Freeman, "in the shape of a primer, the same tale which I have already told in five large volumes. I have only to say that, though the tale told is the same, yet the little book is not an abridgement of the large one, but strictly the same tale told afresh." We may add that the tale is told in a charming style, and with wonderful ability. Though the work is a primer, it is a primer which all but those most profoundly versed in history can read with profit. There is no short account of the Conquest equal to it.

Shakespeare's "Much Ado about Nothing." *With Introduction and Notes Explanatory and Critical. For use in Schools and Families. By the Rev. Henry N. Hudson, Professor of Shakespeare in Boston University.* Boston: Ginn & Heath. Pp. xii, 8, and 138.

This is an expurgated edition, but the work of expurgating has been performed with judgment. In addition to the matter mentioned on the title page, the book contains a short life of Shakespeare, which tells all that is really known about him. The introduction and the notes are characterized by good judgment and indicate extensive scholarship. The mechanical execution of the book is excellent. We recommend the edition not only for the use of schools, but also to all who wish to read the play intelligently.

A Latin Grammar for Schools. *By Henry John Roby. London: Macmillan & Co.* Pp. viii. and 436; crown 8vo, 5s. Received from Messrs. Willing & Williamson, Toronto.

This is in the main an abridgement of Mr. Roby's "Grammar of the Latin Language," which is, as all scholars know, a work of the highest excellence. But it is something more than a mere abridgement, the author having introduced some new matter. It is suitable for pupils preparing to matriculate with honors in the University. As it is a good example of the latest method of treating the subject, we would advise every teacher of Latin who has not possessed himself of a copy of the larger work to procure one of this. Mr. Roby's chapter on the Pronunciation of Latin suggests to us the question how long we in Ontario are to retain our present system. For the pronunciation of Latin like English there never was any valid reason. We adopted the practice because it was that of English universities. Now, when the Roman pronunciation has been adopted in England, we should likewise adopt it. The change must of course begin in University College. We trust that the new professor of classics will not be found wanting in this part of his duty.

MAGAZINES.

We have received from the Leonard Scott Publishing Company, New York, the December number of Blackwood's Edinburgh Magazine, which contains the following:—1. The Private Secretary—Part II. 2. Mr. Kingslake's New Volume. 3. Dr. Wortle's School—conclusion. 4. The Indian Famine Reports. 5. From the Sicilian of Vicortai. 6. Winter Sports and Pleasures. 7. Paulo Post Futurum Policy. 8. Ireland our Reproach. 9. Index.

From Strahan & Company, 34 Paternoster Row, we have received the December number of the Contemporary Review, containing the following articles:—1. On the Limits of Human Knowledge (The Unity of Nature.—No. IV); by the Duke of Argyll. 2. Poets' Corner; by Alfred Austin. 3. Young Bengal at Home; by W. Knighton, LL D. 4. Professor Green as a Critic; by Richard Hodgson, jun. 5. Nihilism in Russia; by the Rev. Moritz Kauffmann. 6. Village Life in New England; by a Non-Resident American. 7. What is the House of Lords? by Prof. Bonamy Price. 8. An Autumn Ramble; by Lady Verney. 9. The Land League and its Work; by T. P. O'Connor, M.P. 10. China and its Foreign Relations; by Sir Rutherford Alcock, K.C.B. 11. Dr. Pusey on Everlasting Punishment; by Prof. J. B. Mayer.

The Gentleman's Annual; Chatto & Windus, Piccadilly. This is the Christmas number of the *Gentleman's Magazine.* Its contents are three stories:—The Posy Ring, by Mrs. Alfred Hunt; Skeleton Keys, by D. Christie Murray; and Love that Purifies, by Henrietta A Duff. We do not know where one can find pleasanter light reading for the holidays. It is announced that the January number will contain the first chapter of a serial story by Justin McCarthy, whose History of Our Own Times has had so marked a success.

The January number of the Atlantic Monthly contains 144 pages of varied instructive and entertaining reading. In the twenty-fourth year of its existence, this magazine continues to be what it has been from the beginning, the best exponent of the culture of the United States. The list of the contributors to its columns embraces a very large number of the ablest American writers, and some eminent names from the other side of the ocean. The current number commences with four chapters of Mr. James's new novel, "The Portrait of a Lady." Then follows a poem on the Tomb of Chaucer, by the English poet and critic, Edmund Clarence Stedwen. An American novelist, Thomas Bailey Aldrich, follows with a fresh humorous article on the time-worn subject of "Smith." Mr. Wm. M. Rossetti, the English poet and biographical writer, contributes the first of a series of articles on the Wives of Poets. Mr. John Fiske, the ablest American exponent of the evolution philosophy, writes in reply to Dr. James on Sociology and Hero-worship. Elizabeth Stuart Phelps, authoress of "The Gates Ajar," furnishes "Friends: a Duett." Richard Grant White, whom his pure, racy and genial style deservedly render a favorite with magazine readers, gives the best criticism of Sarah Bernhardt that we have seen, and we have seen a good many. The other signed articles are: A Winter Journey in Colorado, by N. S. Shaler; A Symposium of Sixty Years Ago, by Harriet W. Preston; Within the Gate, a poem, by John Greenleaf Whittier; The Long Dream, another poem by Will Wallace Harney. The unsigned contributions are: Getting Married in Germany, A Look Ahead, Illustrated Books, Zolay's Essays, Some Political Novels, Books for Young People, Horace Bushnell, The Origin of Religion, the Contributors' Club, and Books of the Month.

The Popular Science Monthly is one of the most instructive journals on our table. Teachers will never be disappointed on reading this well established magazine. The most interesting articles of the present number are "Physical Education," "The Advantages of Ignorance," "Indigestion as a Cause of Nervous Depression," and "The Development of Political Institutions." The last article is by Herbert Spencer.

It is scarcely possible to conceive of a more artistic or more entertaining monthly than "Scribner's." So great is the popularity of this magazine that it has reached the enormous circulation of 125,000 per month. All that "Scribner's" is for older readers, St. Nicholas is for the juniors. Teachers should get their "Friday stories" from St. Nicholas.

CANADA SCHOOL JOURNAL was originally only sixteen pages Reading Matter. This issue contains twenty-six and a half pages.

Publishers' Department.

The value and importance of the CANADA SCHOOL JOURNAL as a strong leverage in the hands of teacners is asserting itself throughout the country. In renewing their subscriptions nearly all our readers bear the highest testimony to its worth, and many state that they *cannot do without it.* In Teachers' Conventions, particularly, this feeling is manifested, and the general desire is to adopt the JOURNAL as the educational paper for the Association. In proof of this we would refer to the reports of the conventions held last month at St. Thomas and Brampton, for the counties of Elgin and Peel respectively, where, to the exclusion of other organs, the JOURNAL has been warmly adopted and paid for entirely out of the Association funds. This proceeding has the effect of adding considerably to the membership, for teachers derive an active advantage from the funds in return for their annual payments which they may not otherwise enjoy. Teachers' libraries are, of course, a very useful element in an association, but experience shows that they are rarely availed of, and are surrounded with trouble and inconvenience. To substitute for them a first-class periodical such as the CANADA SCHOOL JOURNAL is a matter of sound, practical wisdom, and we are greatly mistaken if the teachers of Ontario are not endowed with a good share of that estimable gift.

We would wish our readers to bear in mind that the JOURNAL is not the organ of any particular school or party. It is published on broad, independent principles, and aims at thorough nationality in the cause of education. As such it has a large support, and we expect that support to be widely extended this year.

Canadian authors are not frequently honored by the notice of the great educationists of Britain, but the following extract from the *Educational Times*, the organ of the College of Preceptors, London, England, and the highest authority on educational matters in England, indicates the esteem in which the Canadian Author of the Teacher's Hand-book of Algebra is held, and the appreciation the work has met with in the Mother Country:—

"This is the work of a Canadian Teacher and Inspector, whose name is honorably known beyond the bounds of his native Province, for his exertions in developing and promoting that admirable system of public instruction which has placed the Dominion of Canada so high as regards education, not only among the British Colonies but among the civilized nations of the world. We know of no work in this country that exactly occupies the place of Dr. McLellan's, which is not merely a text-book of Algebra in the ordinary sense, but a Manual of Method for Teaching, illustrating the best and most recent treatment of Algebraical problems and solutions of every kind. The general scope and aim of the work will perhaps be best explained in the author's own words: 'This book—embodying the subject of Lectures at Teachers' Associations—has been prepared at the almost unanimous request of the teachers of Ontario, who have long felt the need of a work to supplement the elementary text-books in common use' Teachers who wish to lay a good foundation for their pupils before proceeding to the higher branches of Mathematics, will do well to obtain Dr. McLellans volume, which contains within a small compass one of the best collections of modern algebraical methods 'gathered from the works of the great masters of analysis' which has come under our notice for a considerable time."

(COPY).

To the Publishers Canada School Journal.

DEAR SIRS,—I enclose $1.00, my subscription to the CANADA SCHOOL JOURNAL for the year 1881.

I look upon it as an indispensable help for teachers of all grades. I must congratulate the management on the many improvements noticeable in the Journal, and I wish it every possible success.

Faithfully yours,
CLARE L. WORRELL,
Head Master, High School, Gananoque.

Dec. 26th, 1880.

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CANADA SCHOOL JOURNAL

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VOL. VI. TORONTO, FEBRUARY, 1881. No. 45.

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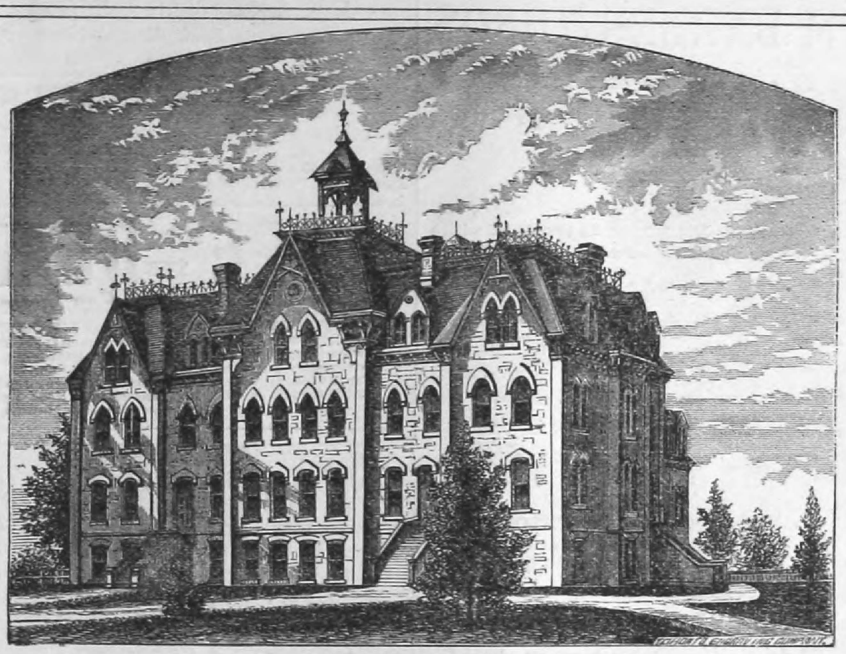

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The Canada School Journal.

VOL. VI. TORONTO, FEBRUARY, 1881. No. 45.

The Canada School Journal

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CANADA SCHOOL JOURNAL HAS RECEIVED

An Honorable Mention at Paris Exhibition, 1878.
Recommended by the Minister of Education for Ontario.
Recommended by the Council of Public Instruction, Quebec.
Recommended by Chief Superintendent of Education, New Brunswick.
Recommended by Chief Superintendent of Education, Nova Scotia.
Recommended by Chief Superintendent of Education, British Columbia.
Recommended by Chief Superintendent of Education, Manitoba.

The Publishers frequently receive letters from their friends complaining of the non-receipt of the JOURNAL. In explanation they would state, as subscriptions are necessarily payable in advance, the mailing clerks have instructions to discontinue the paper when a subscription expires. The clerks are, of course, unable to make any distinction in a list containing names from all parts of the United States and Canada.

THE EDUCATION DEPARTMENT REPORT.

This report, which has just been laid before the Local House, deserves the attentive perusal of all interested in upholding that system of Canadian National Education which we believe to be the most important factor in the evolution of the future of our country. The educational system of our Public Schools is the one feature in the Government of Canada which has received the enthusiastic approval of the leading educational writers and thinkers in Great Britain and America. To quote an unimpeachable authority of the highest class, the *Educational Times*, of London, Eng., speaks of "*that admirable system of public instruction which has placed the Dominion of Canada so high as regards Education, not only among the British Colonies, but among the civilized nations of the world.*" Our JOURNAL is essentially non-political, and we are supported by the general voice of the press of Canada in maintaining the principle that the Education question shall not be dragged into the arena of politics to be a target for the professional mud-throwers of party. Their cue is to magnify ephemeral grievances, to resurrect dead issues such as the University Professor question, and to circulate statements such as those respecting the Central Committee, whose untruthfulness has been proved again and again in the columns of this Journal. But in order to judge the question upon its real merits, it is necessary to look away from this or that detail to which exception is taken, to the general result of the work achieved since the Minister of Education entered office. The Report now before us gives ample material for forming an opinion. There may be details in our School system in which improvement is desirable, but no system will benefit by change for the sake of change; by that constant tinkering of political fault-finders, whose animadversions on the Education Department are like those of the Art-critic in *Punch*, who in reply to the artist asking whether he could suggest any change in the picture under consideration, said "You have made the Duke standing and the Duchess sitting down, now could you not make the Duchess standing, and the Duke sitting down."

The following is an abstract of the portion of the report most interesting to teachers and trustees.

1. The amount apportioned from the Legislative grant was $252,564—decrease $5,794. The apportionment is made to the several Counties, Townships, Cities, Towns, and Incorporated Villages, according to the ratio of the population in each, as compared with the whole population of the Province. The principle of distribution is according to the average attendance and the time of keeping open the Schools, Public and Separate, in each Municipality.

2. The amount apportioned from the Legislative grant (through the Educational Depository) for the purchase of maps, apparatus, prize and library books, was $12,890—decrease, $2,866.

3. The amount from the County *Municipal* Assessment was $874,071, showing an increase of $1,716.

4. The amount available from *Trustees'* School Assessment was $1,433,153—increase, $27,466.

5. The amount from Clergy Reserves Moneys, and from other sources, applied to School purposes in 1879 was $654,050—decrease, $40,934.

6. The total receipts for all Public School purposes for the year 1879, amounted to $3,226,730, showing a decrease of $20,591 below the total receipts of the preceding year.

The School population (comprising only children between the ages of five and sixteen years) reported by trustees was 494,424—increase, 2,064.

The number of pupils between the ages of five and sixteen years attending the schools was 367,845—increase, 412. Number of pupils of other ages attending the schools, 19,167—decrease, 2,415. Total number of pupils attending the schools, 487,012—decrease, 2,003.

The number reported as not attending any school is 27,409—decrease, 6. These were between the ages of seven and twelve years, during which school boards and trustees are required by the Public Schools Act to see that all the children in their school districts attend school for four months in the year.

Number of Teachers, Male and Female.—In the 5,123 schools reported, 6,596 teachers have been employed—increase, 123; of whom 3,153 are male teachers—increase, 93, and 3,443 are female teachers—increase, 30. It will thus be seen that there are about 300 more female than male teachers.

Annual Salaries of Teachers.—The highest salary paid to a male teacher in a county, $900—the lowest, $135; in a city, the highest, $1,000—the lowest, $250; in a town, the highest, $1,000—the lowest, $200. The average salary of male teachers in counties, was $383—of female teachers, $249; in cities, of male teachers, $662—of female teachers, $296; in towns, of male teachers, $616—of female teachers, $270: of the 3,153 male teachers, 10 received salaries ranging from $901 to $1,000; 19 from $801 to $900; 35 from $701 to $800; 45 from $601 to $700; 164 from $501 to $600; 908 from $401 to $500; while 1,972, or the great majority, were paid $400 and under. The average increase of male teachers' salaries for the province during 1879 is $8 per male teacher.

TEXT-BOOKS.

In the new regulations on this subject, Mr. Crooks endeavors to legislate on what has hitherto been the unsolved problem of educationists, namely, how to diminish the continual change of text-books as much as is consistent with educational progress, and how to secure in the text-books in use the minimum of price with the maximum of excellence. The first of these conditions is already insured by the regulation which the Province owes to Mr. Crooks, making any change in text-books depend,

not on the Education Department, but on the Trustees and local Inspector.

The second point is sought to be provided for by legislative action in lowering the price of a number of those text-books for which the demand is greatest, while excellence of mechanical form, in paper, print, and binding, is to be secured by subjecting not only every text-book, but also every separate edition, to the supervision of an officer of the Department. As we have said, the Minister is undertaking a very difficult task, and we most cordially wish him success. Inspection by an officer of the Education Department is what no publisher ought to object to. Nay, he ought, rather, to be glad of it; but it is at least to be hoped that the person appointed to inspect will be one practically acquainted with the business details of the publishing trade, and thus competent for the duty assigned him.

As to the prices of text-books, attempts have been made in nearly every State in the American Union to regulate the cost of text-books by legislation, the latest being in the State of Minnesota, where signal failure elicits the following trenchant criticism from the current number of *Barnes' Educational Monthly*, a leading journal among our professional exchanges, published in New York:

"Some years ago the legislature of Minnesota was persuaded to give to a local dealer a contract to supply all the public schools of the State with text-books, for the term of fifteen years, at certain fixed and apparently low prices. Armed with his 'law,' which specified the contractor by name as well as the prices, but not the books, this gentleman visited the leading publishers, and sought by offering them 'a monopoly' to secure terms that would enable him to supply the books at the extraordinary rates proposed. Naturally the reputable publishers of the best works declined his overtures for the simple business reason that there could be no equivalent in such an arrangement for valuable copyrights. At last, however, he succeeded in securing a 'cheap' series, which we forbear to characterize except by the result. The only relief for the people of Minnesota from the operation of this remarkable 'contract' was provided in the law itself. Some opponent of the measure had contrived to insert a section by which the whole matter was required to be submitted to a popular vote in 1880. Meanwhile Mr. Contractor, confident in the shibboleth of 'cheap school books,' scattered his wares through the State. They have had a fair trial of over two years, but at the general election in November, 1880, the sovereign people arose in their might, and overthrew law, contract, contractor, and 'cheap books' together by a decisive majority. *Moral*—In this free country don't attempt to 'govern too much.' Let the law of demand and supply regulate the prices of books as of other articles of merchandise. While the present terrible competition between publishers exists, there is little danger that our schools will be overcharged."

Those best acquainted with the working of our education system, know well the zeal for the public service of the present Minister, the many important improvements he has effected, his progressive and energetic spirit, of which these very regulations are the outcome. But of the chronic grumbling which is the vice of free institutions and responsible government, none is more irrepressible than that against the Education Department, and this on subjects which the Minister has, by his own act, put from under his control, and into local hands. Has "Sonny" torn his Second Reader, it is the Minister of Education who is to answer for it; or does "Sissy" need a newer and better manual of Algebra to replace the old one which is past its usefulness, it is always the Education Department which is "grinding the faces of the poor," notwithstanding the fact that, as we have already pointed out, the Trustees and Inspector are the persons responsible for any changes made. The Minister can well afford to laugh at the criticisms of Incompetence and Folly, even when Folly is used as a political tool by Cunning.

PAY AND POSITION—THE PROSPECT.

Whenever the "History of Modern Progress" may be written, not the least interesting phase in its evolution will be the gradual rise in social estimation of the callings which have reference to culture and education. The original aristocratic professions were those of the Warrior and the Priest. To these were added in the course of time Physic and Law; Physic as a sort of outlying province of Divinity, the healer of the body being allowed to bear some inferior relation to the physician of the soul; and Law, whose "costs" and "damages" were seen to bear a very respectable analogy to those of war.

Minor distinctions, those of surgeon and physician, attorney and barrister—like that between alligator and crocodile—did not amount to difference of species. But all other callings, though much more directly related to art and culture, were long under the ban of "society." The general feeling of the English upper class of his time was expressed by the boorish king who avowed his distaste for "boets and bainters." Things had not much improved when in George the Third's time general astonishment was expressed that Sir Joshua Reynolds, "a mere painter," could be a member of Parliament; or when the noblest representative of English literature was sneered at by a stupid Scotch laird as "a Dominie, wha keepit a school an' ca'd it an Academy."

The absence of an aristocracy and of its inevitable accompaniment, a social hierarchy of caste, on this continent, has already changed all this. The aristocracy of Money may pay to that of Rank the unrecognized homage of its awkward imitation, but no lord and no millionaire can command the public respect of all classes as can a great writer, or inventor, or scientific thinker, or artist. Has the rise in social position of the teacher kept pace with that of the merchant, the man of letters, or the artist?

In answer to this question, it may fairly be said that the social position of the teacher *has* risen in this country, and that this is due in no small degree to the elevation of the professional standard carried out during the last few years by the Minister of Education in Ontario, and by the Chief Superintendents in the sister provinces. The fact that a vast Governmental machinery exists for the purpose of organizing the teachers of the Province, gives the profession dignity in the eyes of those who least value culture.

But as society is constituted with us, no profession can command social position when remuneration is below the average income of other kinds of skilled labour. It is felt that the inferior physical and mental types will gravitate to such a profession, and that the better class will avoid it, or use it as a stepping stone to something else. But, without counting such prizes as the High Schools, and some of our town and city schools, which are fairly within the reach of the average

teacher's diligence and ambition, the remuneration of teachers is on the whole steadily improving. There is still, however, too much cheap teaching, too many inducements held out by penny-wise and pound-foolish trustees to get teachers to under-bid each other. Besides the "Please state salary required" device, which we exposed in the January issue of this journal, it is only too common for teachers to make private arrangements with trustees, so as to secure an engagement at a smaller salary than would be needed were the matter left to public competition. All such practices are treasonable to the self-respect and interests of both teachers and trustees.

The real evil which is at the root of all under-selling and under-estimating teachers' salaries is the over-crowded state of the profession. The teaching profession, we repeat, is at present over-crowded by third-class certificate teachers. This enables the cheap teachers to play into the hands of the economizing trustee nobly ambitious of saving his constituents five cents each in school-tax. Other motives besides economy may prevent the trustees from being always ready to secure an advanced teacher for a school, some of whose pupils need advanced teaching. The trustee may have no children, or may have young children in one of the junior classes, while perhaps the children of the poorest man in the section, who has neither land nor farm stock on which to employ them, are the most regular attendants at school, and may even have studied the entire course for third-class certificate, and thus be absolutely in need of a teacher of higher grade.

A very simple remedy for this we venture to suggest. It is that the Inspector be instructed to grade the schools in his district, for those in which there are the more advanced pupils making it imperative for the trustees to employ only first or second-class teachers, whilst for others the third-class certificate holders would still be available.

MR. DICKSON IN COURT.

As intimated in the last number of the JOURNAL, a suit was entered by Mr. Milton Haight against Mr. George Dickson, Principal of the Hamilton Collegiate Institute, to obtain the sum of seventy-five dollars, the amount of a scholarship offered by Mr. Dickson to the student of the Hamilton Institute who took the highest number of marks at the first-class teachers' examination in 1880. The trial took place on January 25th, and judgment was reserved until the 28th. The judge then announced that he had decided to have the case tried before a jury, and it has been set down for hearing on the 28th of February. The facts as elicited at the trial are as follows:—Mr. Dickson admitted on oath that he was responsible for issuing the circulars; money for the scholarships having been partly raised by subscription. He did not deny that Mr. Haight had fairly earned the scholarship, but urged that as Mr. Haight did not return to the Hamilton Institute, he was justified in withholding the scholarship, although the circular issued contained no proviso requiring attendance for any specified time.

We refrain from making any remarks concerning the case until it is concluded. We are informed that other actions are depending on the issue of the one instituted by Mr. Haight. We sincerely hope, however, that whatever may be the result of this trial, the Hamilton authorities may give up the discreditable methods of puffing which they have been practising during the past year and a half. For a Collegiate Institute to issue a monthly advertising sheet; to send out an agent whose ostensible mission is to obtain subscribers, but who is remarkably ready to give advice gratis to those who intend to prosecute a course of study; or worse than all to send out private circulars to good students in various parts of the province; these are certainly unabashed violations of all professional etiquette, most injurious to the dignity of a profession which, more than any other, needs, in order to establish its just claims to social position, what Arthur Hugh Clough calls "the tonic of a wholesome pride."

The fact that Mr. Milton Haight and others, after taking scholarships at the Hamilton Institute, should leave it and go to another, goes a long way to prove the correctness of the contention we have made, that loud boasting is not an indication of excellence in teaching, any more than in any other department of work. It is a confirmation of the principle laid down by Thomas Carlyle that an age of shams is also an age of advertisements, an age when the aim is not to *do* better work than others, but to *assert* and *publish* as noisily as possible that our work is the very best in the world's market.

FRECHETTE'S POEMS.

Louis N. Frechette has added to the copious and admirable literature of French Canada two volumes of lyric poetry, both of very high order, the latter of which, *Les Fleurs Boreales*, has obtained the very high honour of being crowned by the Academy in Paris. The French Academy is a literary tribunal whose historic lustre has been fully maintained to the present day; it numbers on its roll all the greatest names in French Literature. Neither political interest nor imperial power have ever been able to sway its decisions, and therefore its award of the highest honour, in its power to bestow, on a Canadian citizen, is for us, as well as our French brethren in the sister Province, a matter for just pride and rejoicing. We are pleased to give our readers as a specimen of Mr. Frechette's lyrics, a translation as literal as may consist with our wish to give the spirit rather than the letter of the original. The following is however a very literal reproduction of the prelude to *Les Oiseaux de Neige:*

THE PROLOGUE TO "THE SUN-BIRDS."

When the rude Equinox at length was over,
  And less inclement winter skies became,
We watched them then our fields in thousands cover—
  Those winged guests whom we the sun-birds name.

No grain of food; no growth of leafage screening
  Their flight from chills that Norway ice-blasts bear;
The aid of Heaven alone is intervening
  'Twixt these sun-coursers and the fowler's snare.

Dear little wanderers! on your joyous wings
  Gleams the first ray of brightness that is Spring's,
Go! fearless fly where avalanches fall,
  Go! 'mid the snow-drifts take your sportive way,
'Mid those white walls your snow-white wings display—
  Weak things, whom God makes safe, most safe of all.

C. P. M.

THE LATE CHIEF JUSTICE MOSS.

The death, while still in the prime of manhood, of Vice-Chancellor Moss has called forth expressions of regret from all the organs of Canadian literature. The late Chief Justice both at school and college gained high academic distinction, and filled with singular grace and fitness the high position of Vice-Chancellor of Toronto University.

UPPER CANADA COLLEGE.

The announcement made a few days ago in the Local House, by the Premier of Ontario, to the effect that Upper Canada College would undergo some change which would bring it into closer connection with the Prvoince, may mean much or little; some alteration of the existing status of the College is evidently intended. It is an institution which has undeniably done good service in the past, and has a long and illustrious list of distinguished Canadians among its pupils. Still *prestige* is not everything, and the Province has a right to expect some very definite action in explanation of Mr. Mowat's speech.

—The Superannuation question is of all others the most important to those teachers who really make teaching their profession. Its solution depends on a few measures, the common sense of which is evident. 1. Compulsory payment by all teachers, female equally with male. 2. Such payment to consist of a sufficient sum, say ten dollars yearly. 3. Equal payment of superannuation allowance to male or female teachers. 4. A fee, say of ten dollars, to be charged to all who enter their names for examination as teacher. 5. No money refunded to those who fail to pass the examination, or who for any cause leave the teaching profession. To these we would be inclined to add, no superannuation allowance under any pretext under twenty-five years' service, unless the teacher had reached the age of sixty. This would enable the teacher who had served for twenty five years, to retire as a matter of right with a sufficient income. It would at once cut away all sorts of demoralizing and degrading practices and would, more than anything else, raise the standard of the teaching profession.

—We clip the following from the *New England Journal of Education*, a paper which takes considerable pains to keep itself well informed on educational matters in Canada, and deserves the support of Canadian teachers:

"Our friends in Canada (Ontario) are congratulating themselves on the happy effects of their Central Committee of Examiners. Under the vigorous working of this board the high schools, normals, teachers' institutes, and model schools have wonderfully improved, and the wisdom of thorough supervision is once more amply vindicated. We must learn, especially in New England, to trust a few able men with ample powers of supervision before our disheveled and disintegrated public schools can be brought up to the point that will satisfy people who demand the worth of their money, even in the things that pertain to the spiritual side of American life."

—The London *Free Press* ascribes to the *Bystander* the merit of suggesting that Upper Canada College be utilised as a National College for Ladies. This suggestion was in reality originated by the CANADA SCHOOL JOURNAL, in whose editorial columns it appeared a month before the *Bystander* advocated the same idea. Our contemporary ought to give credit where credit is due.

—The Syndicate appointed to consider the higher education of women, has issued its report. It recommends that fifteen students who have kept their residence at Girton or a similar institution, be admitted to the (University) Tripos Examination, and that class lists of the female students be published, and certificates given.

—We learn with pleasure that Mr. L. E. EMBREE, B.A., has been appointed Head Master of the High School at Strathroy, where Mr. MacMichael, who for so long a period has been the successful incumbent of the post, has been compelled by ill-health to resign. Mr. Embree has been for some time in Nova Scotia, where his name stands high as a teacher. His accession to the Strathroy High School cannot fail to produce good results.

—In France, M. Camille See's Bill for the secondary instruction of girls, has passed the Senate. Girls' Colleges, on the system of the Lycees, are to be established by the Republic.

Contributions and Correspondence.

DO THE PRINCIPLES OF THE KINDERGARTEN SYSTEM DIFFER FROM THOSE OF MODERN EDUCATION?

BY WILLIAM CROCKET, A.M., PRINCIPAL OF NEW BRUNSWICK NORMAL SCHOOL.

Within the last two or three years, many of our people throughout the different Provinces have heard more or less about a system of Education known as the Kindergarten system. The great names associated with it and the class of persons who patronize it have excited a desire on the part of many to know more about it. At one time they hear it spoken of as a new system destined to work marvellous changes among the young, at another time its merits are questioned and its founder regarded as an impracticable theorist. It was therefore probably owing to the newly awakened interest and the unsettled opinion or rather uninformed opinion respecting it, that the Executive Committee deemed a discussion of its principles a proper subject at the Institute. Are its principles different from those of modern education? Is the child of the Kindergarten system to be afterwards given over to be worked upon by opposed or similar processes? Is it a related or unrelated part of our school system? These are the questions which the Institute has to consider. We have, therefore, to ascertain (1) What the principles of the Kindergarten system are; (2) What the recognized principles of modern education are.

1. A brief description of the Kindergarten system will help us the better to comprehend its principles. A Kindergarten just means a child's garden—a garden or place where children can expand and grow as plants do in a garden. Froebel, the founder of the system, designed that here children between the ages of three

and seven years should be trained by providing them with occupations suitable to their individual powers and awakening minds. They gradually receive a knowledge of nature and of mankind and are carefully trained in heart and mind by judicious guidance, and not by constraint. The various occupations in which they engage are developed one from another in a natural order. Taken together they satisfy the demands of the child's nature in respect both of physical and mental culture, and their methodical application develops his various powers in accordance with nature's own laws. The series of objects technically called Gifts which Froebel devised for these occupations may be arranged under four heads in the following order :—1. Solids. 2. Surfaces. 3. Lines. 4. Points.

The child's course thus begins with wholes, then descends to the parts in planes or surfaces. From the planes it next descends to lines which are the edges or the boundaries of the surface, and lastly to points which are the smallest parts or ends of the lines. The process is then reversed. The child passes from the point to the line in such occupations as in sewing and drawing; from the line to the surface in weaving and interlacing of threads and slats, and to the solid in the modelling in clay. Thus by a different road he reaches his original starting point, and surveys the same truths from a higher plane.

Let us now enter a Kindergarten—one pervaded by Froebel's own spirit—to witness some of these occupations, with a view of ascertaining, if possible, the law underlying them.

First Gift.—Let us first turn our attention to the youngest children. They are engaged in their first occupation with the First Gift called "The Ball," which consists of six soft balls of the colours of the rainbow, three of the primary colours—red, yellow and blue; three of the secondary—green, orange, and violet. Out of the ball they are making endless amusement. They roll it, they toss it, they wheel it round and round. Holding it up by a string, they move it right and left, or round and round, etc. Now they make it spring up like the cat, now they make it fly like the bird. Now in its form and colour they see the fruit and flowers which they know.

Second Gift.—Here is another group of children with other playthings, consisting of a *hard ball*, a *cube*, and a *cylinder*. They first take the sphere, or hard ball, to which a string is attached in a small indented eyelet, and similar exercises are gone through with as with the soft ball. Unlike the soft ball, however, it makes, as the children perceive, a noise when it falls. The cylinder and cube differ in form from the ball, the cube much more than the cylinder, which forms the connecting link between them. They roll the ball in every direction, then can only roll the cylinder when lying on its side, the cube does not roll at all. Here the law of contrast is forced upon the children; they begin to learn what a thing is by learning what it is not. As they compare the cube with the ball they become conscious of the flat faces of the former, its sharp edges and corners. The cylinder has no corners, but it has flat ends and has edges.

Third Gift.—In the third occupation we see the children placing little cubes in a variety of forms. They make chairs, tables, houses, etc. In this occupation or play the cube is divided in every direction into eight smaller cubes,—the children are thus enabled to grasp the inner conditions as well as external appearances of things and have their natural craving or instinct satisfied by finding out what is inside things.

Fourth Gift.—Here we see the children's ingenuity exercised by devising various forms with longitudinal blocks. These are afterwards combined wih the cubes of the preceding *gift* and thus various orders of buildings. This fourth gift is a divided cube also, but its parts are not cubes but parallelopoids, thus emphasising the three dimensions of space implied in the preceding gift.

Fifth Gift.—In the fifth occupation the children are engaged in architectural forms of great beauty and variety. The large cube of this *gift* is divided into a great number of cubes, and some of the smaller cubes are diagonally divided so as to introduce the triangular form. The children now begin to see that the preceding gifts contained the new elements but they failed to perceive them.

Sixth Gift.—The series of Solids is concluded in the sixth gift, which is also a cube but differing in its sub-divisions. Each of the gifts named, it will be seen, is logically derived from the preceding. The various exercises with them are fitted to impress their mutual relations, as we can only fully apprehend an object when its relation to universal law is apprehended, the children must have made great advances in clear, definite conceptions.

Thus far we have seen one great law running through these occupations—each step being derived from and embodying the preceding—the principle of "From the Simple to the Complex."

Froebel did not stop here, however. He arranged his subsequent gifts or occupations so that the child should pass logically from the solid to the surface, line, and point, the limit of the analysis. Here evidently another law determined his procedure,—"From the Concrete to the Abstract."

But the course did not terminate at the point. A contrary process was adopted. The *solid* was built up from the *point*. This process gave the child the best possible means of embodying in visible form the impressions received through the former process. Herein is the embodiment of another principle: "Analysis before Synthesis."

We have not yet, however, reached Frobel's root-idea. Something else underlies his procedure than what I have announced. Had I minutely described the exercises in connection with the gifts it would have been seen that they retained the best characteristics of childish play. Left as much as possible to his own spontaneity, the child is found shaping the playthings or materials to his fancy, as Wordsworth so happily describes:

"Behold the child among his new born blisses;
See at his feet some little plan or chart,
Some fragment of his dream of human life
Shaped by himself with newly-learned art
A wedding or a festival
A mourning or a funeral."

Look at him making his blocks symbolical personages and objects of a story. Even with the eight cubes, five may be a flock of sheep, one a wolf which is seen in the distance, and one the shepherd's dog, which is to defend the sheep from the wolf; during all this time what fun! what interest! what absorption!

How did Froebel hit upon such attractive plans? With an intense sympathy for children he determined to study child nature in all its aspects, to try if it were possible to devise some scheme whereby the activities which they manifested in their play might be systematized, and made the means of the harmonious development of their physical, mental and moral nature.

He brought to his task a theoretical knowledge of Education, a knowledge of human nature as studied in books and among men. He now seeks to penetrate the secret springs of child-action. He takes his place among them; he observes them as they disport themselves in shout and frolic and song. Left to themselves, he sees those of similar ages mingling together. One group he finds here, another there, one group at this game, another at another game, but all bent on happiness, all in careless activity, intense earnestness, complete absorption. What, we may imagine him to say to himself, is evoking all these forces? Play. Play is the motive power. Play is the activity ending in happiness. Play is the birthright of the true child. Where it is denied him—where the forces within him are denied expression through play, you have in the man the stunted limbs, the pigmy intellect, the moral coward, or

something worse. The story of Robert Falconer, as told by George McDonald, is the case of too many. Robert's grandmother denied him every kind of play or amusement, and compelled him to read, instead, Baxter's Saints' Rest, Boston's Fourfold State, Alarm to the Unconverted—perhaps too little read now—which awoke in him a keen sense of hopeless cold, and led him to feel and to say, "What a terrible thing righteousness is." Had his life been kept parallel with God's thought in his creation, or the natural impulses of his childhood, not been crushed, he would have been more likely to gather sweetly by the way "the peaceable fruits of righteousness."

Play is not busy idleness, but is the effort of souls girding themselves for the realities of life. Children, in their weakness, are not fitted to do our work, but they prepare themselves for it by doing their own, bringing into it all the energy of which they are capable. It is but the childhood of earnest life-work. Through play, in association with his comrades, the child begins to recognize moral relations, to feel that he cannot live for himself alone, that he is a member of a community whose rights he must acknowledge.

Froebel, then, looking at the deep significance of play, thought it worth while to guide and direct it, to fill it with mighty influence, to transform it into work, but work which shall look like play, which shall originate in the same impulses, and exercise the same energies as children employ in their amusements or occupations. He therefore proceeded to organize their play, but so organized it that the structure was strictly related and conformed to the original foundation play.

The Kindergarten system, therefore, regards children simply as beings endowed with faculties of many kinds, that must be developed according to their nature, that must not be urged in this direction or cramped in another, but be placed in the most favorable circumstances to attain their full growth according to the laws impressed upon them by their Creator, as do the plants in the soil and climate that suit them. In a word, Froebel's grand principle was: —A child's powers must be exercised and developed according to their natural order of unfolding, and the processes must be based upon all those activities, that go by the name of play.

No books are to be seen in the true Kindergarten. This is in a line with Froebel's root idea; no ideas or facts are to be presented that the child cannot clearly understand and verify. Before coming to books, a child's curiosity must be satisfied about outer objects, and thus be gradually transformed into intelligent interest and desire for knowledge. In his lessons with blocks, the object was not to teach him Number or Geometry, though he learns both, but to lead him to discover facts and truths concerning number, lines, and angles for himself. No half apprehensions, no dim conceptions, no mere formulas of knowledge are allowed; the child is to be disciplined to accuracy in visible things, and the use of concrete terms, so that he will not deceive himself with the semblance of knowledge when the time comes for dealing with abstract things. He learns no long nomenclature of any science, but he learns the exact name of every object that is presented to him. His powers of observation, comparison, and reason are exercised by finding out the relations of the object he sees and knows. Though in his games he is not allowed to do anything mechanically nor at random, he is free to create, to follow his own fancy within the bounds of laws which he has himself been led to recognize.

In Froebel's day, as in our own, there was such a haste to get knowledge that little time was given for culture; instruction overlaid education. Pupils came out of schools probably well-informed, but ill-educated. Schools were designed exclusively for imparting instruction, and pupils were not prepared for entering them. It was a sudden transition from their playful joyous sports, where everything was invested with an interest and a meaning, where their physical and mental activities had full play, to a world entirely unrelated to their past condition, where no opportunity was given for the outflow of an inner life, where nothing was to be seen but a strange symbolism, and little else to be heard than an unknown tongue. There must be, said Froebel, a reformation in the schools that give instruction, and there must be a preparation for such schools.

II. What are the principles of Modern Education? Let us first glance at some of the theories of past times:

Among the Ancients I shall only name one—the Socratic theory. Socrates says that no distinction should be made between mind and bodyin Education. He considers gymnastics as part of the training of the whole man. With respect to mental training, his great aim was to educe truth by questionings and analogies. Truth cannot be seen, however, through distorted media, and Socrates first found it necessary to uproot the simulacra, false conceptions, or semblance of knowledge. There were, in Socrates' day, professional crammers in Athens, men who defended cram on principle. These were the Sophists,—teachers who undertook to furnish their pupils with ready-made talk, which could be produced on any occasion. They could write a leader on either side of any question, without knowing anything about it. Through the teachings of Socrates, the power of the Sophists, whose delusive theories had so long enchained the Greek mind, was broken, and the foundations laid for the reception of truth. He questioned, to expose ignorance and expel error. He questioned to discover facts or draw out the truth. From his practice it is clear that the Socratic theory was the "development of man."

After the revival of learning, till Froebel's time, the prominent educationists were Roger Ascham, Montaigne, Ratich, Comenius, Basedow, and Pestalozzi.

Roger Ascham, in his treatise, The Schoolmaster, in giving directions how to teach Latin, says, "Teach the pupil cheerfully and plainly, the cause and matter of his lesson, then let him construe it into English so oft that he may very easily carry away the understanding of it, then parse it over properly." He afterwards adds, Grammar taught by itself is tedious for the master, hard for the scholar, cold and uncomfortable for both." Grammatica itself is sooner and surer learned by examples from good authors, than by the naked rules of grammarians." Queen Elizabeth, he goes on to say, never took a Latin or Greek grammar in her hand, after the first declining of a noun and conjugation of a verb, and that she had such a perfect understanding of both tongues that there were few in either of the two Universities of England or elsewhere, whose knowledge of the tongues was at all comparable to her Majesty's. This is probably an exaggerated statement of the Queen's attainments. It will be remembered that Ascham was her teacher. One more quotation from Ascham. "Let your plan be such that your pupil will always take to his lesson with pleasure. And pleasure allureth love; love hath lust to labor; labor always obtaineth his purpose."

Montaigne, the contemporary of Ascham, but about thirty years younger, may be said to have founded a school of thinkers on the subject of Education, of which Locke and Rousseau were afterwards the great exponents. As far as regards the method of teaching languages, he discarded grammatical teaching altogether, and wished that all could be taught Latin as he had been—by conversation. In ordinary teaching, he says, we suffer ourselves to lean and rely so very strongly upon the arm of another, that by so doing we prejudice our own strength and vigor. He also insists upon the importance of physical education. We have not, he says, to train up a soul, nor yet a body, but a man, and we cannot divide him.

Ratich, Ratichius, or Ratky, for he is known by any of these names, was a Dane, who flourished during the struggle of the Thirty Years' War—amidst much that lays him open to the suspicion of being a charlatan. He propounded many profound principles, among

which are the following:—Everything after the order and course of nature. One thing at a time. One thing again and again repeated. Nothing should be learned by heart. In learning by heart, he says, the attention is fixed on the words, not on the ideas. Knowledge of the thing itself must be given, before that which refers to the thing. Everything by experiment and analysis. Everything without coercion. The human understanding is so formed that it best retains what it finds pleasure in receiving. The use of rules is to confirm and preserve knowledge, not to acquire knowledge. The rod should be used to correct offences against morals only. There is a good deal here, as you will perceive, which has a Froebelian ring about it.

Comenius, of Moravia, during a chequered life, did much to diffuse sound principles. He lived also during the Thirty Years War, and was acquainted with Ratich. Before his time, no one had brought the mind of a philosopher to bear practically on the subject of education. Ascham and Ratich had investigated new methods; but had made success in teaching the test to which they appealed, rather than abstract principle. Comenius was at once a philosopher and a schoolmaster, who had earned his livelihood by teaching an elementary school. Dissatisfied with the state of education as he found it, he sought for a better system by an examination of the laws of nature. His larger work, the *Didactica Magna*, contains the chief principles which he endeavored to work out. In a chapter, devoted to the principles of easy teaching, he lays down, among other rules, that children will learn if they are taught only what they have a desire to learn, with due regard to their age and the method of instruction—and especially when everything is first taught by means of the senses. On the education of the senses he laid great stress, and was the first, I believe, to do so. Education should proceed, he said, in the following order:—First the senses, then the memory, then the intellect, last of all the critical faculty. This method is according to the order of nature,—the child first perceives through the senses; are stored in the memory and called up by the imagination. By comparing the one with the other, the imagination forms general ideas, and at length the judgment decides between the false and the true. By keeping to this order, Comenius believed that it would be possible to make learning entirely pleasant. From what I have selected of his principles, it would seem as if Comenius was preparing solidly the way for Froebel.

Locke has had considerable influence on the theory of education. He was no enthusiast, but a man of calm, good sense, who found himself charged with the bringing up of a young nobleman. He examined the ordinary education of the day, and where it proved unsatisfactory he set about such alterations as seemed expedient. As Locke had studied medicine, he naturally attached great importance to physcial education, and begins his work with it. Many of his directions on this subject are, I think, very properly condemned, but still there are some that deserve special attention. He says that all clothes should be loose, and speaks as emphatically as every doctor has done since against the madness of straight-lacing. Give the young pupils plenty of open air exercise, plain diet, no wine or strong drink, and little or no physic. No corporal punishment, he says, is useful where the shame of suffering for having done amiss does not work more than the pain. With respect to teaching, he says the art of teaching is to make the pupils feel that their work is sport and play. In his own quaint way he says that children can be made to dance and fence without whipping, which makes him suspect that there is something strange, unnatural, and disagreeable in the things required in Grammar Schools or in the methods used there, that children cannot be brought to without the severity of the lash. He recommends the reading of Latin by means of interlinear translations before the pupil should begin the grammar of it, and dryly adds, if grammar ought to be taught at any time, it must be to one that can speak the language already, how else can he be taught the grammar of it? In short, Locke's aim was to give a boy a sound mind and a sound body. The result was to be brought about by leading, not driving. He was to be trained not for the university, but for the world. Good principles, good manners, and discretion were to be cared for first of all—intelligence and intellectual activity next. With regard to the subject of instruction, those branches of knowledge which concern *things*, was to take precedence of those which consist of *abstract ideas*.

Rousseau, though he wrote much that is fanciful, says much that is profound. He tells us plainly that we err in our practice, because we do not understand childhood. We are sacrificing childhood to the acquirement of knowledge, or rather the semblance of knowledge. We are constantly seeking the man in the child. Childhood has its manner of seeing, perceiving, and thinking, peculiar to itself; nothing is more absurd than our being anxious to substitute our own in its stead. Begin, he says, by studying your pupils better, and if you read my book with that view, it will not be useless to you.

Basedow, a native of Hamburg, had read Rousseau's Emile, which directed the attention of his powerful and original mind to the subject of education. He believed, as did Karrl and Goethe his contemporaries, that what was wanted in education was not a reform but a revolution. His principal ideas are these—We should attend to *nature* in children far more than *art*. Children should be treated like children that they may remain the longer uncorrupted. A child must be first made acquainted with the world as it presents itself to his senses. The key-note upon which his system rests was, "educate according to nature." The natural desires and inclinations of children were to be directed aright, not suppressed.

Pestalozzi, the father of popular education, from whose great heart Froebel had drawn much of his inspiration, was the first great reformer who made his influence widely felt. The theory of development lay at the root of his views, which led him to regard the imparting of knowledge and the training for special pursuits as subordinate aims. Education, he said, instead of merely considering what is to be imparted to children, ought to consider what faculties they possess as capable of development, and should consist in a continual benevolent superintendence, with the object of calling forth the faculties which Providence has implanted, and not in an incoherent mass of exercises—arranged without unity of principle, and gone through without interest. He regarded instruction, as I have said, only as a means of developing the faculties, and he constantly aimed at methods to secure this end. He took great pains with the cultivation of the senses, and was the first to systematize object lessons. Music and drawing played a great part in his system, and he recommended, though he did not practice, modelling—a hint which as we have seen, was afterwards worked out by Frobel.

Among this long list of reformers, there is a remarkable consensus of opinion as to the principles upon which youth should be trained, and there is, as you will perceive, one fundamental principle underlying all their directions and canons,—and that is, that the law, order, and method of education depend upon the law and order of nature—that the threefold nature of the being upon whom education is to operate, must be considered; the nature of the faculties with which he is endowed, and their order of unfolding must be studied; and that this principle is the only solid basis upon which to rest the methods of instruction.

What are the principles of the present day? As enumerated by Herbert Spencer, shared in by the most distinguished scientific men and endorsed, if not carried out, by the most enlightened teachers they may be summed up in one statement. There is a certain sequence in which the faculties unfold, and a certain kind of exercise which each requires during development. To regulate this exercise

we must proceed from the simple to the complex, from the concrete to the abstract, from the empirical to the rational; *i. e.* there must be practice and an accruing experience before there can be science The pupil must be led to make his own investigations and draw his own conclusions. The acquisition of knowledge must be made pleasant.

Spencer very vigorously propounds his principle and very lucidly exemplifies his maxims in plans for exercising the different faculties in early childhood, such as in his object lessons, lessons in drawing, number and geometry. But there is nothing essentially different from the principles I have previously quoted. Spencer's views are now generally known to intelligent teachers and recognized by them; the views of the others were not generally known, they were pretty much confined to the philosophers of the day, but they go to show that what are now recognized principles, were separately thought out at different periods, by men who had studied human nature and human needs most.

These are the principles which this Institute has recognized, and which each member is presumably endeavouring to carry out. The Course of Instruction which you discussed last year and which has since been prescribed by the Board of Education is based upon these principles. Provision is therein made for the exercise of the faculties in the order of their unfolding. The exercises in Form and Colour are only means to the training of the perceptive powers, and the order in which they are arranged accords with the growing strength of these powers. The order of the exercises in number, arithmetic and geometry, leads from the concrete to the abstract. Plant life, animal life, and minerals bring the child in contact with nature, and there is a gradual progression in the exercises till the higher powers are called forth in the reaching of general conclusions and in classification. In fact each subject named in the first grade of the course and continued to the last will be found in consonance with the principles laid down by Spencer.

The fundamental principles of the kindergarten are substantially the same. The faculties are drawn out and exercised in the order of their development. Taking the child earlier, Froebel had necessarily to adopt specific devices to meet child instinct. In the common school we take the child at five years of age and make the burden of the exercises bear on the training of the senses, adapting the methods to his mental development. Though the methods accord in their character and arrangement with many of Froebel's at the same age, there is not the same rigid logical sequence in the exercises nor the same amount of variety, but the grand aim and the pervading principle are the same.

If then the principles of the Kindergarten and of modern education both emanate from the same philosophy, if the faculties whose dawning power we watch and draw out in childhood and youth are the same faculties which in their ripe vigour, the philosopher, the poet, the statesman use for the benefit of mankind; if the will and character which we discipline in childhood are the germ of the same powers that make useful citizens, social benefactors, the leaders and heroes of our race, then school years which are only one stage of that unbroken process of effort and discipline, that we call life, cannot stand isolated, but must be one in purpose, one in spirit, throughout all its phases.

THE FAILURE OF FREE SCHOOLS.

[SECOND ARTICLE.]

BY REV. DAVID ALLISON, LL.D., CHIEF SUPERINTENDENT OF SCHOOLS, NOVA SCOTIA.

Mr. White's second, and if possible, more serious charge against the public school system is that it has contributed to the deterioration of public morals, which, however, is an assumption or assertion, rather than a demonstrated fact. The logic by which he endeavors to connect the schools of the country casually with this alleged declension in morality is peculiar, and not absolutely convincing. Endeavoring to lay a basis of general principles for his argument, he says:—

> Ignorance is the mother of superstition, but has no relation with vice, except that of frequent co-existence; ignorance and vice are so frequently found together, not because the former is the cause of the latter, but because both—but chiefly the former—are the common companions of poverty.

The argument based upon this seems to be that if ignorance were productive of vice and crime, as a prime causal agent, and if the schools on the other hand were nurseries of morality, the country should show, as its history is developed, constant moral improvement instead of deterioration. But apparently this reasoning is fatally illogical. Mr. White has shown, no doubt to his own satisfaction, two things; first that the school system as framed and conducted, fosters ignorance, and secondly that ignorance has no tendency to produce vice. Just how many logical fallacies are involved in drawing from these propositions the inference that the (asserted) decline in morals is a product of national education I cannot say, but I do affirm that a more monstrous perversion of all sound reasoning I never met with. If the schools promote ignorance, and if ignorance has no vice-producing tendencies, whatever or whoever, may be to blame for the sad state of things which Mr. White deplores, the Public School System must be held guiltless by all principles of logic and all recognized canons of thinking. Yet he coolly and amusingly concludes that:—The case against the Public School System is proved as clearly and as undeniably as the truth of Newton's theory of gravitation is proved by the calculations which enable astronomers to declare the motions and to weigh the substance of the planets.

Public morals depend on various conditions and influences. If in the United States, the contention of Mr. White be true, that the standard of morality is being lowered, why does not this quixotic reasoner proclaim Christianity "a failure," seeing that *it* has a most direct connection with the promulgation and maintenance of pure morals, rather than the schools of the land, which, according to his own reasoning, have, as fosterers of ignorance, no responsibility in the matter at all!

"The case against the Public School System" has broken down."

PHYSICAL TRAINING AND MORAL CULTURE IN SCHOOLS.

BY JOHN E. BRYANT, M. A.

A paper read before the Teachers of the County of Durham, and published by request of the Association.

(Concluded from our January number.)

A very serious practical question then arises. If, as is above stated, our national system has very wisely omitted to impose upon our teachers the duty of formally teaching practical morality, and if with still better reasons it omits from our school curriculum the teaching of positive morality, is no attempt to be made to inculcate on our children and on our young people the truths—for we cannot say that they are not truths—of conduct? Are the grand, time-honoured principles of justice, truthfulness, sincerity, honour, integrity, manliness, mercy, temperateness, sympathy, to be unnoticed; are our children to grow up uninstructed in the duties of kindness, filial and fraternal affection, love of home and country; regard of authority, and veneration for the holy and good? Every

lover of his race, every follower of Christ, every one who wishes the world to grow better as it grows older, will emphatically answer no. Let our intellectual faculties be trained as much as may be till they are almost divine in their neatness and in their scope; let the physical powers be so developed that men shall be as gods upon earth; but above all, let that best and noblest outcome of human development—character, receive the closest and tenderest care; let every influence be thrown around it that in beauty, nobility, and grandeur it may ever remain the richest, choicest flower of our civilization. But character, like every other product of human activity, is a thing of development and growth. It is not inborn. It is not got as a gift. It is a result of constitutional proclivities and antipathies, wisely regulated by parental and scholastic control, fixed and made habitual by the discipline of reward and punishment, *i.e.* by the sensations of pleasure and pain, influenced by reason when reason is able to assert itself, and finally directed by conscience or the moral sense when that sense,—which whether it be innate or acquired, or partly one and partly the other, we shall not stop to ask,—has attained that permanence and activity which give it the predominance among the faculties of the mind. But whether the moral sense be innate or not, there can be no doubt that it becomes very much more active and acute by exercise than disuse; and that it is possible for it to become perverted is almost equally undoubtable: therefore we see that the early years of childhood are of the greatest importance to moral character, for it is then that those influences which go towards forming character, which I have named above, are most easily felt, and the impressions that are made are most lasting. For, as we have seen, among the influences, are scholastic control, natural discipline, reason, and the moral sense, of which reason and the moral sense, are matters to a great extent of education and training. Hence for the development of character, and its permanent existence there is no time which is of such prime consequence as the years of childhood and youth; for though education may go on through a life-time, its quality is fixed in the years of adolescence. Nothing then would be more lamentable, nothing would be more fatal to the character of our people, nothing would be so prejudicial to their real happiness, than that moral education should be eliminated from our educational system.

I may say here that I was led to the more particular consideration of this question of moral education by an opinion expressed to me by one of our leading educationists;—that it seems as if morality were being pushed out of our education, and as if it were disregarded as a thing of no value, and that by consequence our people are growing up characterless, unprepared to resist evil, indisposed to the good, possibly disposed towards the bad; with no ideals of truth and goodness which always could be retained as beacon lights to direct them in what would otherwise be a dark and perilous course. Now I have endeavored to show that while there is every apparent ground for the formation of such an opinion, while there is every reason to think that the fear thus expressed is not without foundation, yet no one is blamable for this; that it is nothing more than may be looked for in a syetsm of public education. The question then comes pressed home with double earnestness, is there no hope? Can nothing be done? So much impressed have some been with the force of this objection to our public school system, so keenly have they felt its incompleteness, its failure in this the most essential of all the elements of education, that there have been special educational institutions established, with the object, not of securing better intellectual education, or better physical education than our government affords (for that would be, perhaps, impossible, at least at present) but for the purpose of supplying that defect in moral education existing in our national system, which is by none more noticed, or more lamented than by those who love our school system most sincerely. And as I am personally connected with such an institution, I hope I may be pardoned for saying that I think every well-wisher of his fellows should be willing to bid such institutions God-speed. They may be doing it not wisely, but at least they are making the attempt; and it is only by trials oft repeated that a working system can be established; and the hope may be felt that when the experience that shall have been gained by their failures and their successes, there may be reared a system of moral training which perhaps, in the not too distant future, shall be incorporated in our national system; and besides it may happen that within their walls are some who are acquiring that stability of character, that bias toward the good and true, that strength of will and firmness of habit which, in the conflict of life, may save them from what might otherwise be irretrievable disaster. Only I should like to say that wise parental care which good government should bestow upon all its subjects, should be extended to the patrons of these institutions also, so that while such private schools might, in accordance with the wishes of their founders, do their special work without let or hindrance, they should, in matters of intellectual education, have the privilege of government inspection, and of having the government stamp set upon their efficiency or inefficiency as intellectual educators.

But, from the nature of things, such institutions are likely to be few. Their existence at the present time, at least in this country, is merely tentative. And in no way can their countenance, and the special work which they do, considerably influence the totality of moral education. The great masses of our people, the entire nation, one may say, must be educated in accordance with the provisions and curriculum of our national system, and the great question comes up again—can nothing be done by which this deficiency of moral education, which we have noticed in our system, may be made up? It would be inexpressibly sad if this question were to remain unanswered. But, fortunately, there is an answer. And the answer has been seen by the framers of our system, in that they have intended that the greatest care should be taken in the selection of teachers, that none should be employed except those of unexceptionable character; in that they have left the choice of teachers to local boards, to those most interested in the matter, whose sons and daughters are to come under the influence of the teachers engaged by them; and in that they have instructed all teachers to use their influence for the lasting good of their pupils, in respect of character especially. This does not seem very much, as we have said before, but if the spirit of the regulations be carried out, and not the mere letter, there would be little ground of complaint.

The first requisite is *character* in the teacher. And for this requisite it is not sufficient that he is of good reputation, or to use common phrases, that "he is well spoken of," that "no one has a word to say against him." These are essential, it is true, but they are far from being all. The teacher must not possess character alone, but, what is of great consequence, he must have *the love of character*; that indefinable something by which a man's influence for good is exerted by his mere existence among others. His goodness must be of the nature that is *leavening*, that it works by contact. The value of even intellectual instruction depends upon the moral character of the man who imparts it. There must be, in the minds of pupils, a sense of respect for the man, a conviction of the earnestness of the instructor, of the genuinness of his instruction; there must be an admiration for the underlying moral character, his truthfulness, honesty, sincerity, his candour, his modesty, his temperateness. If these sentiments do not exist in the pupils, there is great loss; there is the loss of example, there is the hurt of contact with moral weakness, or what is worse; and there is in their minds that dissociation of intellectual worth and moral work, and that

association of intellectual cleverness with moral inferiority which are sure to result, according to the bias of the pupils, either in contempt for moral worth, because it is seen that it is not necessary to intellectual superiority, or for intellectual worth, because it is seen that it may co-exist with depraved character, which will greatly tend either to intellectual stagnation, or to bring about moral shipwreck in after life.

On every ground, then, *character* should be the fundamental element in a teacher's qualification. But, though the character indicated above is absolutely necessary, *it* is not enough. In addition to irreproachableness of conduct, and force of character, there must be something more. There must be *the enthusiasm of a soul aglow with love for his fellow men.*

This is a high ideal, but for the work of character building it is not too high. Think what destinies the teacher holds in his hands! How all those moral forces which affect, for weal or woe, individuals and communities, receive their life-long direction from him! Of the vast difference between the possibilities which may ensue, when in the hearts of young men and women have been implanted noble ideas, sound principles, worthy motives, and when ideals, principles, and motives have been implanted the reverse of these, or when there has been no tilling of the moral soil. It is not too much to say that upon the teacher depends the character of the nation. His influence transcends all others, except the mother's. And should the profession be entered upon with a proper preparation and spirit, it is the grandest in the world. The possibilities for doing good, for giving the proper bias, for forming enduring and correct habits, for inspiring noble purposes and motives, are such as no religious teacher or philanthropist, who deals only with adults, can ever hope to possess. He can form, in fact he does form, the character of; the generations of the world, more potently than any other influence. Their after life is coloured by the reflection of his character upon them, nay, more, it is founded upon his principles, and is imbued with his very nature. His power is limited only by the constitutional predilections of his pupils, and these he has a better chance of modifying than any one else can have. No one who recognizes personal accountability for influences possessed as a ruling factor in his own character, should enter upon the profession of teaching without a due sense of his responsibility, and without a full determination to put his influence on the side of right, and to make of his charge the noblest result possible. It often happens, I am sorry to say, that the teaching profession is entered upon, like many another, with the sole object of earning money. But, though the laborer is worthy of his hire, yet no man should be a teacher, and, especially, remain a teacher, who does not feel that while, for the daily hours he may devote to the ordinary duties of his profession, he should receive pay as any other worker, yet his interest in his pupils, in their well-being now and in the future, is beyond all payment, and tha this chief reward for the work he does, lies in the satisfaction there is in doing it. This would give him a conscientiousness in the discharge of his duty which would regard no personal sacrifice or self-denial too difficult. It would inspire him with an earnestness in the achievement of his great purpose, the upbuilding of character, which would set all difficulties at defiance, and turn the dull routine of school life into a labour of love. It would give him that untiring patience, which certainly none need more than he who has to deal, as the teacher has, with the frailties and perversities of our human nature, and would have fruit borne for it in altered lives, and bettered habits, and exalted purposes. It would fill his soul with an earnestness which would ennoble alike his profession and his life, and make him the compeer of the greatest benefactors of humanity everywhere. His occupation, then, would be no longer a mercenary trade, but a *mission* in which his aims would compare with the philanthropic of every profession, and he would be enrolled in that noble army, whose battle's aim is the implanting of love and truth and right, and of reverence for God, and sympathy with man, in every human heart.

But it may be asked, how is this work of character-building to go on, if no formal teaching of morals be attempted? The question might as well be asked of the mother, how she is able to teach her children to love her, to respect her authority, to be gentle and truthful and good, if she does not give them set lessons on character and conduct. The good man does good by living, and the teacher whose character has in it the elements of loveliness will have an influence for good which will flow from his acts and inspire his pupils to noble conduct, as unconsciously as perfume distils from the rose and fills the summer air with delicious fragrance. But the teacher, whose character is such as we have seen it should be, will not rest content with this unconscious influence. Despite all the controversy of theologians and philosophers, there still remains enough of indisputable truth, to impart to character stability and texture, and to give to conduct such guidance as will tend to the lasting good of every one who will abide by it. The obligations which truth, and duty, and justice, and mercy, impose upon mankind, are eternal, and derive little sanction from the philosophic basis upon which they rest. Sympathy with our fellow man, a duty which has received a sacred authority from that Great Teacher who taught us to love our neighbour as ourself, may still be included as a duty and as a source of supreme pleasure, with an abiding faith in its obligatoriness and its blessedness, despite the multiform interpretations which have been set upon much that has come from the same lips. And so honour, and good-will, and integrity, and sincerity and kindness, and forgiveness of injury, and a host of other beautiful elements and adornments of character, may be impressed upon the growing minds and hearts of childhood, with an unquestioning faith in their lasting utility and loveliness. Selfishness may be shown to be a source of unhappiness, a curse which comes in but a thin disguise. It, and every form of evil, every disposition to badness, every budding vice, may be checked and restrained, if not altogether eradicated. But to do all this, there must be the enthusiastic glowing soul, the earnest heart, the determined purpose, the intelligent and discerning mind. In short, the teacher must be the near approach to that ideal which he should continually hold up to his pupils. He must labour in season and out of season. He must ever be ready with wise counsel and example. He will be quick to find time, in the intervals of his more systematic occupations, to present with emphasized directness some phase of character or element of moral beauty, which may have been suggested by a chance incident of school life; or perhaps on some occasion of less frequent occurrence, as it may be, in the last hour of the week, he will dwell more particularly on some point of character of prime importance, and illustrate it by examples from the history of good and great men, whose lives he thinks are useful lessons to the purpose. He will constantly think that those young souls entrusted to his keeping, are getting, not only their intellectual, but their moral aliment from him; and that should he fail to supply them, they are sure to be fed upon husks, or worse. And recognizing this, he will be conscientiously careful that the source from which they are supplied, is pure; and that what he gives them, either in precept or in example, is the truest, noblest, purest he can make it. Should this exalted purpose be recognized by the teacher, there will be little doubt that ways and means will be found for its fulfilment. Moral truth, when thus presented and, illustrated is attractive. The young mind easily assimilates it, and the teacher will find that his work will not go on unrewarded, but that it will soon have its best fruition and richest guerdon in the development

of character in his pupils, and the blossoming out in their souls of all the noblest virtues of boyhood and girlhood, of manhood and womanhood.

Furthermore, should the teacher pursue his work with this exalted aim, he has even a more precious reward. This devotion to character, building will re-act upon himself, and he will feel that though he make many a stumble, that though often he may grievously err, that though at times his life will seem to him to belie all that he has taught, and that no duty is so hard as that of presenting a noble ideal when he fails to realize it in himself, he will feel, despite all this, that his own character is growing stronger and better, and that with him the paths of duty and of pleasure are coming nearer, and that by a steady approximation, he is attaining to that completeness of life which is enjoined by the Great Teacher who commands us to be "perfect even as our father in heaven is perfect."

This, then, seems to me to be the true remedy for what cannot but be acknowledged as a great deficiency in our national system. But it is a remedy which legislation is unable to supply, it lies beyond the effect of ordinance and act of parliament. It must come from a general recognition on the part of teachers that theirs is indeed a noble profession—that they must not work with eye-service merely, but as in the sight of God, striving to the uttermost to discharge the trust which they have assumed. They have entrusted to them the most precious of *all* trusts,—the possibilities of human souls; let them then with loving sympathy, with earnest hope, with wise discernment and with untiring energy labour to quit themselves like honorable men, and return these trusts to the world with the best of all possessions,—hearts quickened to a realization of the responsibility and the earnestness of life, consciences made sensible to the last demands of truth and duty, and purposes and aims ennobled by a forgetfulness of self, and a devotion to the well-being of others. When this duty is recognized by every teacher in the land, as it is now, I hope, by very many, and when it is conscientiously and earnestly discharged, then no longer shall any one have reason to lament that in our national system moral education is neglected.

THE SUPERANNUATION FUND.

BY C. H. ASHDOWN, SANDWICH.

(*Continued from the January Number.*)

The law says:—"Every teacher or inspector who complies with the preliminary conditions as to contribution to the fund is absolutely entitled, on reaching the full age of sixty years, to retire from the teaching profession at his discretion, and to receive an allowance at the rate of six dollars per annum for every year of teaching service in this Province. The Education Department must, however, be furnished with satisfactory evidence of such teacher possessing a good character, as to his or her age, and the length of service as a teacher or inspector, as the case may be.

"Every teacher or inspector who is *under* sixty years of age having contributed as aforesaid, and is disabled from practicing his profession, is entitled to the like allowance on furnishing the Department, from time to time, with satisfactory evidence of his being so disabled.

"In the case of any applicant *under* sixty years of age, on the ground that he or she is disabled from practicing his or her profession, the particulars contained in the form furnished by the Department must be given, together with evidence thereof to the satisfaction of the Minister; and in all applications of this nature, the applicant is required to submit himself or herself for examination touching his or her disability before such one or more registered medical practitioners as the Minister may appoint; and the applicant will not be entitled to any retiring allowance unless the Minister, upon such an examination, is satisfied that such disability exists.

"Any retiring allowance is liable to be withdrawn in any year, unless the disability continues; and the recipient is annually to present himself to the inspector in order that he may report thereon to the Minister."

The reader's attention is now invited to a few figures bearing upon this question of "*under sixty years of age.*"

| | | No. of Recipients. | Being per cent. of | Recipients. | Average Age. | Average service. | RECIPIENTS under ..... years of age. | | |

An inspection of the preceeding table shows there was a steady increase in the number of those under sixty deriving benefit from the fund. In 1872, they were only 12 per cent. of the whole, but in 1878, they represented 33 per cent. of the recipients.

And the question is, were all these persons under sixty years of age disabled from practicing their profession? Was the medical examination as thorough as it should have been? Did they present themselves annually to their several inspectors? And did the inspectors correctly report thereon to the Minister of Education?

This teaching must be killing work indeed, when so many have to fall out of line before they reach five and forty or fifty years, and yet a glance at the preceding table shows a goodly array of those who passed the "three-score and ten."

For those who, owing to a poor constitution and over-taxed energies, are broken down, I have the greatest sympathy, and would be the last to object to their receiving substantial aid. But when men retire from the profession to enter the Civil Service or other walks in life and receive larger incomes than when teaching, and at the same time draw their superannuation allowance, is it not high time for an investigation.

I wonder, was it Goethe's Mephistophiles, the mischief-worker, who whispered in my ear as I busied myself in preparing my facts and figures for this paper: "Party," "Politics," "Favoritism," "Local influence," "Minister of Education," sounds grandiose for a people numbering less than two millions, but I am not so sure the step was a wise one, which substituted the portfolio of the Minister, for the tenure of office during pleasure.

Party is party, and I care not who the minister may be, nor what his political bias, from the very nature of his position private judgment, and that broader view of great questions granted to those placed above the turmoil of faction, can never be the lot of him who is a player in that game of political chance "the Ins and Outs."

My reason for dwelling upon the injustice of so large a number of those under the prescribed age participating in the fund, is, because I understand the Legislature feels too large a call is being made upon the public purse in aid of this fund, and contemplates introducing certain changes into its sources of revenue and its administration. The sources of revenue should be (a)an annual tax and (b) an examination fee.

The annual tax should be levied upon all teachers in active service irrespective of sex. When men and women are engaged in the same work they should share the same responsibilities and enjoy the same privileges. When woman enters any field of labor as a competitor with man, let the fight be a fair one and no favor. Let us hear nothing of the "weaker vessel" theory.

In the teaching profession we find there has been a vast increase of the female element since the year 1859 as the following table will show:—

OF THE FEMALE ELEMENT.				EXCESS OF	
Date.	Number of Males.	Number of Females.	Total.	Males.	Females.
1859	3115	1120	4235	1995	
1860	3100	1191	4281	1919	
1861	3031	1305	4336	1726	
1862	3115	1291	4406	1824	
1863	3094	1410	4504	1684	
1864	3011	1614	4625	1397	
1865	2930	1791	4721	1139	
1866	2925	1864	4789	1061	
1867	2849	2041	4890	808	
1868	2777	2219	4996	558	
1869	2775	2279	5054	496	
1870	2753	2412	5165	341	
1871	2641	2665	5306	.....	24
1872	2626	2850	5476	.....	224
1873	2581	3061	5642	.....	480
1874	2601	3135	5736	.....	534
1875	2645	3373	6018	.....	728
1876	2780	3405	6185	.....	625
1877	3020	3448	6468	.....	428
1878	3060	3413	6473	.....	353

Had the annual tax of four dollars been levied upon all teachers beginning with 1872, an examination fee of four dollars charged all applicants for certificates, and a more rigid investigation made of the claims of those under sixty, there would to-day be at least a hundred and thirty thousand dollars to the credit of the fund.

	Number of Teachers.	Number of Applicants for Examination.	Amount of Annual Tax.	Amount of Examination Fees.	Total Amount to the Credit of the Fund.	Amount Paid to those of 60 Years or Over.	Surplus to the Credit of the Fund.
1872	5476	4053	$21,904	$16,212	$38,116	$10,488	$27,628
1873	5642	3633	22,568	14,532	37,100	16,314	20,786
1874	5736	2498	22,944	9,992	32,936	17,772	15,164
1875	6018	3879	24,072	15,516	39,588	19,592	19,996
1876	6185	4487	24,740	17,948	42,688	22,521	20,167
1877	6468	6288	25,872	25,152	51,024	25,325	25,699
1898	6473	4679	25,892	18,716	44,608	28,130	16,469
		Total.	$167,992	$118,068	$286,060	$140,151	$145,909

I think the above table contains sufficient evidence to show that the Superannuation Fund could be made self-sustaining.

With respect to the administration of the fund, I would offer the following suggestions:

1. That no moneys be refunded to those retiring from the profession.

2. That the regulation relative to deceased teachers remain as at present.

3. That after a female has taught for not less than five, or a male not less than ten years, a certificate of deposit be granted to such, which certificate shall entitle the holder—upon attaining the age of sixty years—to (*a*) an annual pension of———dollars for every year taught, or if preferred by the holder,(*b*) to the payment in one sum of all moneys paid in, with compound interest at the rate of 6 per cent per annum.

4. That in each inspectorate at the annual meeting of the Teachers' Convention, a committee of not less than six be appointed by the vote of the teachers then present, with the inspector as chairman *ex officio*, the duties of this committee to be the thorough investigation of the cases of all applicants for aid *under sixty years of age.*

5. That a list of all those under sixty receiving aid be published annually in the educational papers of the Province, giving specific information as to (*a*) name, (*b*) age, (*c*) county, (*d*) cause of inabiliy to teach, (*e*) name of inspector, (*f*) name of medical examiner, (*g*) number of years of service (*h*) amount of aid.

6th. In the event of the death of the holder of a "Certificate of Deposit" before reaching the age of sixty, the *face* value of such certificate shall be paid to the representative of the said holder.

7th. That no allowance be made for any years taught prior to 1872 after the First day of January 1884, unless all arrears of tax are paid up by that date.

From the above it will be seen that the only persons who may be said to *suffer* from the superannuation scheme are those who, after teaching two or three years, try something else; and those who utilize the profession as a stepping-stone to one more lucrative. And these are the very parties who should suffer. It is they who lower the salaries and stand in the way of better men. The fact is it is yet too easy a thing to become a teacher, and it is to be hoped that the legislature now in session will, before its close, do something to protect the interests of those who, from inclination and fitness for the work, desire to make teaching their profession for life.

To the Editor of the Canada School Journal:

DEAR SIR,—I have taken your magazine since it was first established, and can honestly say that it has done a great deal for the profession generally, and for the educational interests of the country. I therefore make free to call your attention to a way in which you can put the teachers of Ontario under still greater obligations, and that is by protesting, in their behalf, against the authorization of text-books for use in the schools till they are found to be free from errors that can be easily avoided by a reasonable amount of care being taken. The chief offender at present I believe to be an authorized Geography. If you examine its map of Ontario you will look in vain for Orangeville, Paisley, Lucknow, Dresden, Brussels, Mitchell, Harriston, Durham, Parkhill, though many smaller places are given, some of which, if they have any existence at all, are not found in the list of post offices. Coming towards the east, Port Perry is not thought worth naming; Campbellford is placed in the County of Hastings, about where Stirling should be, and the Kingston and Pembroke Railway is represented as completed to the latter place, though its promoters would be much pleased, if they could find the means to extend it from the Mississippi, where it now terminates, to Renfrew, the proposed terminus. Though the Canada Central has been running to Renfrew for five years, and has lately been opened forty or fifty miles further, this map leaves it at Renfrew.

I desire you to publish this, to the end that the pupils in our schools may find some protection against misleading text-books, when the proper authorities have failed in their duty in this respect. At every Entrance Examination I find Geography to be a subject in which the great majority of candidates are deficient, and I attribute this largely to the former text-book of Lovell's, and the maps issued by the Department.

I remain, yours sincerely,
HEAD MASTER.

Mathematical Department.

Communications intended for this part of the JOURNAL should be on separate sheets, written on one side only, and properly paged to prevent mistakes. They must be received on or before the 20th of the month to secure notice in the succeeding issue, and must be accompanied by the correspondents' names and addresses.

EXAMINATION PAPERS.

SOLUTIONS.

I.

1. (1) $a-b$, and $(a-b)^2+x(a+b)$.
   (2) x^2+ax+b and x^2-ax+c.
   (3) $a-2b$, a^2-ab+b^2, a, and $a^2-3ab+3b^2$.

2. Bookwork.

3. (1) Bookwork.
   (2) $(x+3y)(x-3y)(x^2+4y^2)$.

4. (1) $\dfrac{1}{yxz}$.
   (2) 0.

5. First expression should contain qx^3. Then on actually dividing, remainder is

$$\{(q-1)-p(q-p)\}x^2+\{p-p(q-p)\}x+1-q+p,$$

all the terms of which vanish if $q=p+1$.

6. (1) $x+y+z=x(a+1)$, &c.

$$\therefore \frac{1}{a+1} = \frac{x}{x+y+z}, \text{ \&c.}$$

$$\text{and } \frac{1}{a+1}+\frac{1}{b+1}+\frac{1}{c+1} = 1.$$

   (2) $x^2(y+z)+\ldots\ldots=0$, if, (since $y+z=-x$)
   $x^3+y^3+z^3-3xyz=0$
   if $(x+y+z)(x^2+y^2+z^2-xy-yz-zx)=0$
   if $0\times(\ldots\ldots)=0$.

7. (1) $a^3+b^3>a^2b+ab^2$
   if $a^2-ab+b^2>ab$, since $a+b$ is positive
   if $a^2+b^2>2ab$.

2. True if
   $3a^2+3b^2+3c^2-2ab-2bc-2ca>ab+bc+ca$
   if $a^2+b^2+c^2>ab+bc+ca$.
   Now $a^2+b^2>2ab$
   $b^2+c^2>2bc$
   $c^2+a^2>2ca$
   $\therefore\ a^2+b^2+c^2>ab+bc+ca$.

8. Bookwork.

9. (1) $= \dfrac{2+\sqrt{2}}{\sqrt{2}+1-\sqrt{2}} + \dfrac{2-\sqrt{2}}{\sqrt{2}-1-\sqrt{2}} = 2\sqrt{2}.$

   (1) $= \dfrac{1+\sqrt{2}-\sqrt{3}}{1+2+2\sqrt{2}-3} = \dfrac{\sqrt{2}+2-\sqrt{6}}{4}.$

II.

1. (1) $x^2+2xyz+y^2z^2=1-y^2-z^2+y^2z^2=(1-y^2)(1-z^2)$
   $\therefore\ x+yz=\{(1-y^2)(1-z^2)\}^{\frac{1}{2}}$, &c.

and adding, required result is obtained.

   (2) From above

$$\frac{x+yz}{(1+y)(1+z)}=\left\{\frac{(1-y)(1-z)}{(1+y)(1+z)}\right\}^{\frac{1}{2}} \text{\&c.}$$

And adding, given expression will equal

$$\frac{x+y+z+xy+yz+zx+xyz+x^2+y^2+z^2+2xyz}{(1+x)(1+y)(1+z)}=1.$$

2. (1) Adding the first two equations
   $2xy=x^2+y^2-a^2-b^2$
   or $\sqrt{a^2+b^2}=x-y$, &c.

$\therefore\ \sqrt{a^2+b^2}+\sqrt{b^2+c^2}+\sqrt{c^2+a^2}=0$. And the equations are not consistent unless this relation holds.

   (2) Adding $(x+y)(a^2+b^2)=x+y$, or $a^2+b^2=1$. The equations are not consistent unless this relation holds, and if it does hold there is but one equation, and the ratio of x to y can alone be found.

3. (1) $=\dfrac{n(n+1)(2n+1)}{6}$. See Todhunter, § 660.

   (2) Series is convergent, for ratio of $\overline{n+1}^{th}$ term to n^{th} is $\dfrac{n+1}{n}\cdot\dfrac{1}{3}=\left(1+\dfrac{1}{n}\right)\cdot\dfrac{1}{3}$, which as n increases indefinitely, tends to $\frac{1}{3}$ as its limit,—a quantity less than unity. See Todhunter, § 559.

$$\text{Let } S = \frac{2}{3}+\frac{4}{3^2}+\frac{6}{3^3}+\cdots\cdot$$

$$\therefore\ S\times\frac{1}{3} = \frac{2}{3^2}+\frac{4}{3^3}+\cdots\cdot$$

$$\text{subtracting } S\times\frac{2}{3}=\frac{2}{3}+\frac{2}{3^2}+\cdots\cdot$$

$$=\frac{\frac{2}{3}}{1-\frac{1}{3}}=1$$

or $S=1\frac{1}{2}$.

4. (1) Bookwork.

(2) The total number of numbers that can thus be formed is

$$\frac{|\underline{m+n+\ldots}}{|\underline{m}\ |\underline{n}\ \ldots\ldots}$$

Hence the number of times that a will be found in any assigned place is

$$\frac{m}{m+n+\ldots} \times \frac{|\underline{m+n+\ldots}}{|\underline{m}\ |\underline{n}+\ldots\ldots}$$

Hence the sum of the digits in any assigned place is

$$\frac{ma+nb+\ldots}{m+n+\ldots\ldots} \times \frac{|\underline{m+n+\ldots}}{|\underline{m}\ |\underline{n}\ \ldots\ldots}$$

And this sum of all the numbers formed will be this multiplied by 1111.....$m+n+\ldots$places; *i.e.*, by

$$\frac{10^{m+n+\ldots}-1}{10-1}.$$

5. $$\left(\frac{x}{x-1}\right)^{\frac{1}{x}} = \left(\frac{x-1}{x}\right)^{-\frac{1}{x}} = \left(1-\frac{1}{x}\right)^{-\frac{1}{x}}$$

$$=1+\frac{1}{x^2}+\frac{x+1}{|\underline{2}}\cdot\frac{1}{x^4}+\frac{(x+1)(2x+1)}{|\underline{3}}\cdot\frac{1}{x^6}+\ldots$$

6. (1) Todhunter, §530.

(2) The coefficient of the middle term is the coefficient of x^n. From $\{1+x(1+x)\}^n$

$$=1+C^n_1 x(1+x)+C^n_2 x^2(1+x)^2+\ldots C^n_{\frac{n}{2}} n^{\frac{n}{2}}(1+x)^{\frac{n}{2}}+\ldots$$

$$+C^n_{n-1}\, x^{n-1}(1+x)^{n-1}+C^n_n n^n(1+x)^n.$$ n being even.

Picking out the terms involving x^n and remembering that $C^n_n=1$, $C^n_{n-1}=C^n_1$, &c., we get for coefficient of x^n the first expression given.

If n be odd we obtain the second expression.

7. $$x=a^{a^x} = a^{(1+x\log_e a+\ldots)} \qquad \begin{aligned} &= a^{x\log a} \\ &= a^{\cdot a} \ldots\ldots \text{ approx.} \\ &= \{1+x(\log a)^2\} \text{ approx.} \end{aligned}$$

$$\therefore\ x=\frac{a}{a-(\log a)^2}.$$

8. Series is greater than

$$\frac{1}{1^p}+\frac{1}{2^p}+\frac{2}{4^p}+\frac{4}{8^p}+\ldots$$

than $$1+\frac{1}{2^p}+\frac{1}{2^{2p-1}}+\frac{1}{2^{3p-2}}+\ldots$$

than $$1+\frac{\frac{1}{2^p}}{1-\frac{1}{2^{p-1}}} = 1+\frac{1}{2^p-2} = \frac{2^p-1}{2(2^{p-1}-1)}.$$

It is also less than

$$1+\frac{2}{2^p}+\frac{4}{4^p}+\frac{8}{8^p}+\ldots.$$

$$=1+\frac{1}{2^{p-1}}+\frac{1}{2^{2p-2}}+\frac{1}{2^{3p-3}}+\ldots$$

$$=\frac{1}{1-\frac{1}{2^{p-1}}}=\frac{2^{p-1}}{2^{p-1}-1}$$

9. Area of one of the triangles of which the circumscribed figure is composed is (a being radius of the circle)

$$a^2 \tan 18^\circ$$

Of one of those of which the inscribed figure is composed is $a^2 \sin 18^\circ \cos 18^\circ$.

Hence ratio $$=\frac{1}{\cos^2 18^\circ}=\frac{8}{5+\sqrt{5}}=\frac{8}{7+(\sqrt{5}-2)}=\text{\&c.}$$

We unavoidably hold over our correspondence until next issue.

Practical Department.

HOW CHILDREN SHOULD BE TAUGHT TO READ.

MR. EDITOR,—Believing that no subject is so badly taught in the schools of Ontario as Reading, I propose, with your permission, to conduct a discussion in your columns on the methods of teaching it with a view of learning which of them is the simplest and most philosophical. During the past two years, I have had the honor of advocating at the Provincial Teachers' Convention, and at several County Conventions, a *self-consistent phonic system;* that is, a system which gives the child the *sounds* and *powers* of the letters at once, and at first gives it but ONE SOUND FOR EACH. During the past year, Professor Meiklejohn, of the University of St. Andrew's, has published a little work, advocating precisely the same system. This *One Sound System* I purpose to expound and defend.

With reference to other systems of teaching reading, my position will be friendly to the various phonetic methods; respectful to a sentence method as an *introduction* to the process of learning to read; indifferent to the alphabetic method (if there can be such a thing) and decidedly antagonistic to the word method as understood and taught in Ontario.

I hope that every statement I make may be fairly criticized, and if necessary corrected. I desire to reach the truth, and I am quite willing to be hurt a little while climbing.

JAMES L. HUGHES, P. S. Inspector.

HOW TO TEACH READING.

III.

In learning to read English a child has two great discoveries to make. He has to learn, in the first place, that the marks which he sees on the printed page in some way serve to represent the sounds or words which he utters when he speaks; and in the second place, he has unfortunately to find out that the same letter or combination of letters does not always stand for the same sound. In teaching by any but a phonetic or a self-consistent phonic method, these two difficulties are presented to the poor child at the same time, and he necessarily becomes confused. By the combination of the two troubles, the greatness of each is increased.

The process of learning to read consists of two parts: *word recognition* and *expressive reading*. The confounding of these parts has given rise to a large amount of misunderstanding concerning the method of teaching the subject. In order that a discussion in regard to it may be properly understood, it is essential that the distinction between *word recognition* and *expressive reading* be clearly made and constantly kept in view. All teachers agree that the only way to teach *expressive* reading to young children, is by giving them a correct example for imitation. Unfortunately, however, many teachers throughout Ontario, even in the more prominent schools, have understood this statement to mean too much. Imitation is everything with them. The teacher begins at the first

page and continues till the last by speaking the sentences as they occur in as correct a manner as he can, and his pupils imitate him, looking at him quite as often as at the sentences they are supposed to be learning. It is quite amusing to see half the members of a class look in the face of their teacher and say, "I see an ox," or a "hen," or some of the other animals mentioned in our primers. The result of such a method of teaching naturally is that pupils learn a string of sentences by rote, and associate them with the pictures at the top of the cards. A carpenter teaches his apprentice that running his plane in a certain way over a rough board will make it smooth, he never tells him that moving his plane will make a board and render it smooth at the same time.

Making a board and polishing it are vastly different things; so also are learning to read and the art of reading. The various discussions in regard to methods of teaching children to read, refer only to the ready and accurate recognition of words. All writers agree as to the method of teaching them how to read expressively.

Keeping these distinctions constantly before our minds, we may now proceed to the

FIRST LESSON IN READING.

Many writers urge that this should consist chiefly of a conversation regarding some common object or thing. A *cat* is frequently selected as the victim, and what is mis-named an "object lesson", is given on the unfortunate cat to the more unfortunate pupils, who already know more about the cat and its habits than their teacher, so far as a child's knowledge of a cat ought to extend. All this is done to interest them in the lesson. What an unnatural effort! The trouble is that the children are certain to take more interest in the frisking, mischievous, singing, natural old cat they know so well at the beginning of the lesson, than in the mystical thing with "latin parts" that the teacher talks about. Conversational exercises in connection with any lesson are very valuable, as language lessons, and they are quite allowable as such in connection with any reading lesson *but the first.* In that the teacher should labour to interest the children in *reading,* not in what they are to read about. With this end in view he might appropriately read to his class a very short story, calling special attention to the fact that it is in the book, and that there are many other pretty stories printed in books, and that every boy and girl may learn to read these stories for themselves. There is no other way in which pupils can be so directly interested in learning to read as by this means. So far as interesting the pupils in the subject of the lesson is concerned, the teacher need not make any special efforts. Every boy and girl is interested in so many things that there need be no difficulty on that score. In arranging the first lesson, three things should be kept in view:—

1. The subject should be one with which the pupils are familiar, and in which they are interested.

2. The sounds of the letters used, should be easily made.

3. The vocal arrangement necessary in their formation, should be simple and easily illustrated.

Having regard to all these objects, as well as to the use that can be *immediately* made of the letters by the children, I would in the first lesson teach the letters *p*, and *a*. How should they be taught? Here is the rock on which we may be wrecked. This is the point at which discussions may be expected on *analysis* and *synthesis.* Here we shall be deluged with opinions to the effect that children "proceed from wholes to parts," etc., etc. I do not propose to enter into the discussion—willingly. Writers are divided nearly equally on the question. On the whole I am inclined to agree with Mr. Hailmann in the opinion that regarding teaching generally, "instead of being opposed to each other as two *different* methods to accomplish the same ends, they are only the necessary parts of the *same* method, the method of intellectual life." If the study of a subject calls into exercise the observant faculties only, then by all means the method should be *analytic.* If, on the contrary, it calls the constructive powers into play, as I hold the teaching of reading should do, then the *synthetic* method is preferable. Children six years of age are quite able to form many things out of their elements; and those wise men who assert the contrary, forget that a boy of three will form patterns, and shapes of things, with a few sticks, houses with blocks, etc.

P

1. Let each child place a small piece of paper on its open hand.

2. At a signal given by the teacher, let each one blow his paper from his hand. This should be done three or four times.

3. Let each one pretend to blow off a paper without really having it on his hand. In doing this they should carefully watch the action of their lips.

4. With the papers again on their hands let them get ready to blow them off—pressing the air forcibly against the lips, but keeping them tightly shut until a signal is given.

5. With all eyes fixed on the teacher, the pupils should be led in repeating the action of closing the lips, pressing the air against them, and then opening them suddenly. By moving his hands, the teacher can lead as many pupils as can see him in this exercise. When his hands are brought together, all lips should be shut and the air pressed against them; when the hands are separated, the lips should be opened so as to allow the air to escape.

In this way, every pupil will learn the *sound* of *p* in from one to two minutes, in such a way that they will *never forget it.*

A

As this letter has so many sounds, it becomes a question which one should be given to it. As already explained, only one sound must be given to the pupils, and no words should be found in their first primer in which it should have any other sound. This letter has three sounds which are pretty closely related, in (1) *a*n, (2) *a*sk, (3)*a*h. Professor Bell, in speaking of the intermediate sound, says, "The extreme pronunciations, 1 and 3 are, at the present day, comparatively rare. The precise quality of the intermediate sound cannot be correctly noted, for it ranges, among different speakers, within every practicable shade of sound within these limits." This statement has an underlying current of philosophy that may not be at first noticeable. It accounts for what is really a fact, that a child who is taught one of these three sounds will change it insensibly to either of the others in use. This gives a latitude in regard to *a* which can not be found in connection with the other vowels. In teaching the other vowels, the *short* sound should be given. In the case of *a*, the *short* sound requires a vocal formation of such a kind that the sound can not be prolonged without considerable effort, and, therefore, the Italian sound, as in *a*h is the best to give, as it can be sustained by the pupils without any difficulty, provided that they can breathe properly. In forming this sound, three things should be attended to:

1. The mouth should be opened well.

2. The lips should be drawn back at the sides.

3. The tongue should lie at the bottom of the mouth, without being arched at all.

The pupils will make the sound readily by imitation, if they are warned to open their mouths properly. After the class has repeated the sound a few times, to impress it on their ears, and to give the teacher the opportunity of correcting any tendencies to *aw* on the one hand, or too sharp a sound on the other, the lesson should proceed in the following manner. Placing the letters on the board thus:—

p a

p a

p——a

pa

with a circle around the last pair of letters, to indicate that the two sounds are to be uttered at once, the teacher points to the first *p* with the question ; "What does this say ?" This question should be adhered to in every case, for reasons previously stated.

The pupils answer by blowing as taught. After a pause he points to the first *a* and repeats his question. He should dwell on each letter until the answer comes freely and correctly from all the members of his class. Having repeated his drill on the first line, with a well-marked pause between the two letters, he should proceed to the second line making the pause much shorter than before. When he reaches the third line the sound of *p* should be made as short as possible and the sound of *a* joined quickly to it and prolonged. When the fourth line is reached the pupils should be told to shut their lips and press the air against them as when forming *p*, and, at a signal from the teacher, to open the lips and let the sound *ah* float out with the compressed air. This will form the word *pa*, and after repeating the processes connected with the last line a few times, several if not all the pupils will *discover* the fact that they are saying the shortest name applied to their fathers. By using these letters twice the word *papa* will be formed and, without any forcing, pupils who never made an attempt to read at all, may be made to *discover* for themselves the name of a word of four letters in their first lesson. These letters will afford sufficient opportunity for a drill to occupy the time during the first lesson.

A SHORT SERMON ON BOYS.

BY CHARLES CLARKSON, M.A., SEAFORTH.

Friends, we this day address you on the subject of boys. The subject of our discourse will be found with a big apple in one hand and a pair of skates in the other. At his back hangs his satchel, crammed with school books of portentous number and alarming dimensions. There is mischief and frolic lurking round the corners of his mouth, intelligence sparkles in his eyes, and perfect health flushes his brown cheeks. But, see, he is off while we speak. His spirits are as bounding and elastic as his step ; his plans and purposes as changeable as the breeze that waves his curly locks ; his latent power as great as those of the lazy summer wind straying hither and thither across the plain, but which, when its might is aroused, becomes the irresistible hurricane.

Dear friends, we shall divide our subject into three parts. First, *heart*, the symbol of affection and emotion ; second, *brain*, the emblem of intellect ; and in the third place we shall conclude with an application and an appeal on behalf of boys.

1. A large number of men and women who have to deal with boys, are a keen-scented, close-fisted set of money-makers. They have no sympathy with the chief delights of a boy's life. They call him "*cet enfant terrible*," and are disqualified for understanding the workings of a boy's heart, by reason of their own lack of sympathy. They are wedded to their gains and losses. The prospects of the Syndicate, or of war in Europe, occupy more of their thoughts than does the proper development of the intellectual and moral powers of their sons. They look upon boys as their natural enemies, an incursion of little Goths and Vandals. They treat boys accordingly, and receive back their own with usury. Their hearts have lost warmth, and freshness, and sympathy. Like old lava, they have grown cold and hard and immovable, and cling tenaciously to their chosen objects. There is a wide chasm between them and the boys, with no bridge of sympathy to reach the disposition and character of youth. Now, the hearts of our boys are full of the motion and music, the sunshine and the flowers of spring. Their merry, wholesome hilarity contrasts with selfish sourness, as the purling bubble of the brook contrasts with the silence of the hard, sullen stones over which it rattles. Boys seldom love with half-heartedness, or simply because it pays, as too many of riper years are apt to do. The great majority of them are frank, whole-souled fellows, unskilled in Pecksniffian hypocrisy, unknowing the chicanery and deceit of many smooth-rubbed souls. Boys are in general no summer swallows, who desert their friend in the winter of trouble, and only gather round him with noisy clamor while there is something to be made out of him. No ; when a boy says "I *like* Bill Smith," it means that, with no hope of reward beyond Bill's approval and pat on the back, he will fight for him, with tongue and fist, through thick and thin. Above all things, a boy appreciates fair play. Friends, you do not always treat boys wisely and justly. You bribe them, you coax them, you threaten them with the terrors of the law, you even torture them with undeserved whippings, hastily administered. You outrage their natural and intuitive sense of justice by your unequal dealings. You are often guilt of partiality in your treatment. You do not hold the balance fairly between your different children. No wonder if your child hates an unjust, tyrannical government. Boys' eyes are sharp to perceive the inequalities of your administration. They know when you are too indolent to exert your authority. They can distinguish instantly between coaxing, flattery and merited praise. Your hollow promises they discount at sight, and at their real value. Your counterfeit blandishments will not win their hearts. You sometimes deal in shams, and deceive the boys. Even the worst boys despise shams, and pay homage to truth, kindness, and justice. Away with these things ! down with shamocracy, if you mean to gain access to the sacred enclosure of a boy's affections and disposition.

II. In the second place, interest, the understanding. Boys are born hungry, naked and ignorant. They crave food, clothing and knowledge. If these three great wants are not all perfectly supplied, future development is imperfect; wanting food, they speedily perish ; lacking clothing, they become painted savages ; without knowledge, they follow brutal instincts. If the body be not clothed with garments and the mind with knowledge, the child becomes a mere animal. Further, the body may be arrayed in broadcloth and fine linen, fare sumptuously every day, and frequent fashionable society, while the starveling mind wears only the ragged livery of ignorance, is full of sores, and has dogs for its companions. Illustrations of this melancholy case are seen on our sidewalks, desert our churches, and fill low saloons and groggeries. Lacking fixed principles of action, they drift aimlessly with whatever eddy or current they chance to meet. The very genius of Christianity is thought-compelling. Knowledge is the first step to be taken, and Christianity requires its possessor to grow continually in knowldege, and at the same time it presents to the intellect and imagination the grandest conceptions, the sublimest thoughts, and the most profound problems that have ever engaged human attention. Ignorant Christianity is a contradiction in terms ; and the progress of our common Christianity is closely connected with the mental illumination and intellectual outfit of the boys.

Boys have been endowed with an insatiable curiosity, a questioning, prying, investigating spirit which is the essential condition of progress in any kind of knowledge. They simply need to be set in a suitable set of circumstances so that this natural appetite for knowledge may find its appropriate objects. And if, by the mis-

fortunes of birth, situation or any other accident, these favorable conditions are denied, then it is the duty of society to become the foster-parent of our boys, to step in and secure to them their natural and inalienable rights. The cupolas of our schools and the spires of our churches, unite their voices to demand for our boys, deliverance from intellectual starvation. Better stunt the body than dwarf the soul; better tamper with the mortal, than blight the undying; better for boys to die of hunger, than to live with nothing higher than savage instincts and brutal passions. The sage of Chelsea has said "That there should one man die ignorant who had a capacity for knowlenge, this I call a tragedy. What I mourn over is that the lamp of his soul should go out; that no ray of heavenly, or even earthly knowledge, should visit him; but only in the haggard darkness, like two spectres, Fear and Indignation bear him company."

III. And now, permit me in the third and last place, to conclude with an application and an appeal. Parents, who could well afford the expense, frequently cut short the school days of their sons before they have mastered even the elements of real education; before they are far enough advanced to become their own teachers, and carry on the great life-task of self-education. Even before the boy has reached the upper classes of the public school, he is removed to learn, as quickly as possible, the art of bread-winning and money-making. Dear friends, this was excusable 35 years ago, when this district was largely forest, the settlers poor, and educational facilities extremely meagre. It is quite the reverse of excusable in the year 1881. You can now better afford to spend $200 on your son's education, than they could afford to do without his help among the log piles and bush heaps for a single summer. Those days of ox-carts and corduroy roads have vanished forever from these counties. The conditions of life are greatly changed, All honor to the men by whose patient labor the forest has become a smiling field! But let us imitate their worthy example and push on to higher results. We plead with you, not for an earlier start, but for a later ending. It is but once in a life-time; let the boy stay a couple of years longer. Do not be impatient and expect miracles. Education is not a thing to be bought and sold by avoirdupois. There are great differences. Many of the best minds mature rather slowly; all the better for them if they develop slowly, gradually, naturally. Let us have by all means "first the blade, then the ear, then the full corn in the ear." We want *boys*, not little old men, whose precociousness is their ruin. The effect of two years' thorough drill between 15 and 18, will be life-long. Let the boys go to school. Give them the benefit of a higher training than the elementary school supplies. Let them spend their days with Todhunter and Milton, and their nights with Cicero and Demosthenes. You can now do this for your children better than the early settlers could give their children bread, when the nearest mill was at Galt, and the only means of communication through the swamps was an ox-sled. Parents, bequeath your sons higher education rather than broad fields, or large balances at the bank, which may do them more harm than good. At the present time every man may, with a little effort, leave his sons the legacy of a sound educational training, a legacy which no mortgage can imperil, and no sheriff can seize. It will always exalt the aims and enjoyments of its possessor, and generally be a passport to respectability, to influence and the highest usefulness. These boys are worth ten Pacific Railways; let us spend money on them freely, with the understanding, if need be, that they will inherit nothing more, that they must rely on their own resources. When they are turned adrift into the world, they will give a good account of themselves in the battle of life. They will be blood worthy of this young nation, and give a history worthy of its parentage.

A MORAL LESSON.

BY ALICE COOPER.

The lesson was in language, on words and their elements.

"What is the *greatest* word in the English language?" said the teacher, at the close of the exercise. No reply. "Suppose I were to ask the name of the greatest man you ever heard of."

"Alexander the Great," said one of the boys.

"Well, Alexander the Great was a mighty conqueror, but he had an enemy stronger than himself that conquered him. Alexander was buried in a golden coffin, but he died from drunkenness. What was his enemy.

"Strong drink," said the boys.

"I told you last week about a man in England who murdered his two children and their mother. Do you remember what he said before his execution?"

"'After I took to drink, everything went wrong with me,'" were his words.

"Yes, the ancient Spartans used to make their slaves drink till they were intoxicated, that their children might see what a beastly, wretched object a drunkard is."

"I will never be a drunkard." said one boy.

"My brother says taking a little will do no harm," said another.

"The Duke of Orleans was the eldest son of King Louis Phillippe. He was a noble, generous young man, and everybody liked him. He thought it was no harm to take a little wine occasionally, but one day he drank a little too much; in getting out of his carriage he staggered and fell; his head struck the pavement; he was carried into a beer shop that was near and died there. Owing to his death, the Orleans dynasty was overthrown, his whole family were sent into exile, and their property, over one hundred millions of dollars, was taken from them. Write in your blank-books, "Wine is a mocker, strong drink is raging, and whosoever is deceived thereby is not wise.' 'War has slain its thousands, but rum its tens of thousands.'"

"I think Washington was the greatest man I ever heard of," said one.

"I think Greene, the Rhode Island blacksmith, was as great," said another.

"Adams and Jefferson," said a third.

"Why not say Benedict Arnold" said the teacher. Was he not brave? Was he not one of the first to raise the flag of freedom Think of Ticonderoga, and Quebec, and Saratoga."

"He was a traitor; he could not be trusted."

"Yes, he was not *honest* was he? Well, what made Washington, Greene, Adams, and Jefferson great?"

"They were brave, and true, and honest."

"Write in your blank-books, 'An *honest* man is the noblest work of God.'"

"I think the greatest word in the English language is *honesty*,' said a thoughtful boy.

"Well, boys," replied the teacher, "let us think about honesty; let us practise it, and love it; and if you find a greater word than *honesty*, let me know.—*National Journal.*

DRAWING.

1. All children who can be taught to read, write and cipher, can be taught to draw.

2. Drawing, by the law of Massachusetts, is required to be taught to every child as an element of general education, like reading, writing and arithmetic.

3. As an elementary subject, it should be taught by the regular teachers, and not by special instructors.

4. The true function of drawing, in general education, is to develop accuracy and to exercise the imagination, thereby tending to produce love of order, and to nourish originality.

5. Educationally, drawing should be regarded as a means for the study of other subjects, such as geography, history, mechanics, design. In general education, it is to be considered as an implement, not as an ornament.

6. The practice of drawing is necessary to the possession of taste skill and industry, and is, therefore, the common element of education for enjoyment of the beautiful, and for a profitable, practical life.

7. In the primary, grammar and high schools, drawing is elementary and general ; in the normal and evening schools, advance and special ; for teaching purposes in the first, and for skilled industry in the second.

8. Good industrial art includes the scientific, as well as the artistic element ; science securing the necessity of true and permanent workmanship, art contributing the quality of attractiveness and beauty. The study of practical art by drawing should, therefore, comprehend the exactness of science by the use of instruments, as in geometrical drawing and designing ; and the acquisition of knowledge of the beautiful, and manual skill in expression by free-hand drawing of historical masterpieces of art and choice natural forms.

9. From this study so undertaken, we may expect a more systematic knowledge of the physical world, in history, and at the present time ; for, through the sensitiveness to appreciation by the eye, and power of expression by the hand, of its phenomena, may become a knowledge of nature's laws, a love of the fit and beautiful, and that ability to combine these in our own works, which alone produces the highest form of art—originality.

10. Drawing may now take its legal place in the public schools as an element of, and, not as before, a specialty in education, at as little cost as any other equally useful branch of instruction, with the prospect that, at a future time, as many persons will be able to draw well as can read or write well, and as large a proportion be able to design well as to produce a good English composition.—*National Journal of Education.*

HISTORY AS A PART OF THE SCHOOL CURRICULUM.

Miss O'Connor, Head-mistress of the Clapham Middle School, read the following paper on this subject, before the Stockwell Branch of the Education Society in England:—

The objections to this study during school life may be classified as (*a*) Objections to History as history;

(*b*) Objections to History as too commonly taught in schools.

Objections of the first division are of two sorts : the subject is rendered a difficult one for schools by religious and political differences. It is not so difficult but that it may easily be taken up in after life. But difficulty ought not to exclude a subject, and History teaches invaluable lessons of liberality and impartiality ; while the ignorance of modern politicians and the party spirit of the day are proofs of the way in which History learnt in after life may be misapplied. Great evils were wrought by party spirit in past days ; but, in reading partisan history from an antagonistic point of view, impartiality may be cultivated.

(*b*) Objections to History as taught in schools are—

1. That it is a mere mechanical effort of memory.
2. That it is a dry skeleton, repulsive to young minds.
3. That it is a mere lists of dates, names, and battles.
4. That it affords no guidance to our duties as citizens.
5. That, even if interesting, History is not useful.
6. That the study of the lives of kings is useless.

The first three objections refer to generally condemned and dying-out systems of using cram-manuals and learning by rote.

The fourth and fifth may be answered by recalling the lessons of self-devotion and patriotism learnt from History, the political and social experiences there recorded, and the warnings afforded by those experiences.

The lives of kings have affected the social and political state of their people. Witness the Charter issuing from John's hands, not from William the Conqueror's or Henry the First's ; the municipal privileges gained from warlike kings ; the religious changes wrought by Henry VIII. ; and the welding into one of English parties under Elizabeth. The advantages of historical study may be summed up as—the strengthening and development of the intellectual memory, and the training of the mind to discern the relation of cause and effect ; the awakening and sustaining of interest in mankind generally ; the introduction it gives to literature ; the encouragement it affords to, and the interest it awakens in, unselfishness ; and the necessity it imposes on us to suspend our judgment.

In a school course of History, English History should be taken as a basis, and its early periods first, since the state of modern English political affairs, domestic or foreign, is not to be grasped by the childish mind, which is easily interested in the epic form of early History.

Suggested Scheme of History for a school. Two weekly lessons.

Form I.—Ages from seven to eleven. Teaching oral. Stories from English History, beginning at the early periods and taken chronologically.

Form II.—Ages nine to twelve. Lessons oral, but written out from memory and given in to the teacher. Narrative History.

Form III.—Ages ten to thirteen. Lectures on English History, including the literature of the period. Lectures to be written from memory, with use of notes. Pupils to do some reading.

Form IV.—Ages twelve to fifteen. Lectures on the Junior Cambridge course. Lessons to be written from memory after reading Green and Bright.

Form V.—Ages fifteen to seventeen. Senior Cambridge course. Lessons partly by lecture, partly by giving headings and requiring the class to read up the necessary information, writing down the important parts. Criticism of the views of historians.

Form VI.—Age from seventeen. Leading constitutional points are considered, and general views of the subject discussed, but the members of the class are expected to study for themselves.

In the discussion following, all the objections before stated were again urged ; and the additional criticisms brought forward—that the young could understand the biographical element only in History ; that it was impossible to teach all the history of a country in story form ; that food for the imagination and moral training could be better drawn from other sources ; and that the early teaching of History not only caused children to dislike it, but to form prejudiced opinions, rarely if ever got rid of in later life. Patriotism was condemned as leading to "Jingoism," and it was gravely proposed to omit History altogether—sacred and profane—from the school course.

The answers to these objections were, in substance, as follow :—

Children can grasp the idea of a community earlier than most objectors suppose ; historical facts, other than those purely biographical, can be and are taught in story form, and are found interesting ; children's dislike to History arises from the system of teaching by rote, long lists of dates and unexplained facts ; children form prejudices, even if not taught History, and wise teaching counter-

acts such prejudices; patriotism, instead of teaching a love of war, might be the stepping-stone to beneficial cosmopolitanism. On this side the question was put, "What shall we substitute for History as a training in the suspending of the judgment?"

The German method of teaching History was said to be—(1) The instruction of the child first in the History of its own locality, and the connexion of this History with that of other and neighbouring parts of the country; (2) the History of the country as a whole; (3) History of Classic nations; (4) Modern Foreign History. The youngest child's notions were formed from scattered stories about individuals, afterwards gathered up, and gone through chronologically.

The Chairman said no decisive general principles had been laid down for the pursuit of this study. Skeleton biographic and philosophic history had been mentioned, but other sorts might have been noticed, such as Gibbon's, Macaulay's, and the History furnished by the old chroniclers. He had himself taught History to very young boys in Henry of Huntingdon's Chronicle and early ballads; to older ones in passages from Herodotus; to still older pupils, who were reading Chaucer and Shakspere, by sending them to the Cyclopædia for authorities, and to the authorities for details, and thus teaching them to weigh evidence. In this way a general taste is formed, interest is aroused, and the study is fairly introduced, and can be profitably pursued in later life on philosophical principles. He added, too, the further plea for introducing History at an early age, that children would have some sort of exciting reading, and History was a safeguard against sensational fiction.

PHYSICAL EDUCATION.

REPORT OF THE COMMITTEE OF THE LINCOLN TEACHERS' ASSOCIATION, ADOPTED OCTOBER 22ND, 1880.

The Committee of the Lincoln Teachers' Association, appointed to consider means of promoting the physical well-being of the children attending our schools, begs to report as follows:—

The means within the reach of teachers, trustees, and parents for the improvement of the physical condition of the children, are, at best, but partially employed, and, in the great majority of schools, almost wholly neglected. In order to direct attention to this important branch of education, and to encourage those responsible for the well-being of the children to use those rational and easy means of physical development, without which mental training is not only useless but injurious, it seems to us desirable that this Report, accompanied by a few simple rules on School Hygiene, should be printed and distributed, with special reference to (1) The ventilation, heating, and cleansing of the school-room, as directly affecting not only the health but also the mental activity and brightness of teachers and scholars; (2) The careful oversight of the physical condition of the children with reference to the observance of the ordinary rules of health in their habits and amusements, and to the age at which children should begin school, as well as the length of their daily application to study; (3) The use of physical exercises calculated to develop symmetrically every part of the frame, and to give grace and vigor to its movements, thus preventing habits of stooping and other imperfections in form and gait.

VENTILATION.

The manner of ventilating a room depends somewhat on the position and surroundings of the room itself, on the state of the weather, and on the direction of the wind. Hence it is difficult to lay down rules that will apply in every case. Still, there are general principles that will apply in all cases, among which we may mention the following:—

1. Cold air is not necessarily pure air.

2. Windows should always open from the top for purposes of ventilation.

3. Drafts should be avoided. Though bad air may poison slowly, a blast of cold air is more immediately dangerous.

4. When the outside temperature is much lower than that of the room, a slight lowering of the windows will secure a constant change of atmosphere; but when the two temperatures are nearly the same, unless the wind blow directly against the windows, very little exchange of air will take place even if the opening be quite wide. Hence the danger of bad ventilation in the cool weather of spring and autumn.

5. Measures that will suffice to ventilate a room one day may be altogether insufficient on another. Hence the teacher must be constantly on the watch.

6. Impure air in a room is not easily observed by those in it, but much more readily by any person coming in out of the fresh air.

Besides these general principles, the following rules are recommended:—

1. To open all the windows and doors for three or four minutes during each recess, so as to effect a complete change of air.

2. Have them closed and the room warmed before calling school. To this end it is important that the teacher be in his place fifteen minutes before nine, and five minutes before school in the afternoon, as the law directs.

3. Overheating should be avoided, as it causes restlessness, and increases the danger of the pupils taking cold on going out.

4. Trustees in building school houses should construct in connection with the chimneys, ventilating flues with registers opening near the floor.

5. Floors should be frequently scrubbed and walls whitewashed.

OVERSIGHT OF THE PHYSICAL CONDITION OF CHILDREN.

The evils to be guarded against under this head are:—

1. Sending children to school at too early an age, particularly delicate children in need of fresh air and freedom more than the unnatural confinement of the school-room. The teacher should never fail to point out the injury such children suffer, and urge their withdrawal on their parents. As a general rule it may be safely asserted that no child is benefited by an attendance at an earlier age than six years, and many should not attend for a year or more later.

2. Making the daily session for children from five to seven years old as long as for older pupils. This evil is so apparent that in towns and villages, such children are now generally dismissed at 11 a.m. and 3 p.m.; but in rural sections though this cannot be done, yet a judicious framing of the time-table so as to allow longer and more frequent intervals of play, will give vent to the activity and restlessness of children at an age when nature calls more for bodily than mental growth.

3. Requiring children of from ten to fourteen to study too many subjects, and giving them too many and too long lessons for home preparation. We are aware that this matter is not entirely within the control of the teacher, and that in order to preserve his reputation he may almost be compelled to take part in this forcing process; but, though he cannot remove the evil, he can do much to mitigate it.

4. Allowing children to disregard the laws of health in their habits or amusements. Many constitutions are permanently injured by children sitting in school with wet feet, by careless exposure when overheated in play, or by other means, all of them preventible by a little careful oversight on the part of the teacher. No one will question for a moment that neglect of these duties, and the ills that flow from that neglect, can never be compensated by

the most careful cultivation of mind—a sound mind in a sound body being the true standard of a complete education.

PHYSICAL EXERCISES.

The following simple physical exercises suitable for the school room have been carefully selected, and are highly recommended not only as a means of physical culture, but also as a pleasant variety in the ordinary school exercises.

It is of the utmost importance that the windows be opened to admit fresh air before commencing work, and that before each exercise the proper "position" be insisted on. In graded schools, where the pupils remain seated during the greater part of the day, it is recommended to take one or two of the given exercises after each lesson; and in rural schools the whole set twice a day—in the middle of the morning session, and again in the afternoon.

The exercises are calculated to develop the chief muscles of the body, and they are so arranged that too continuous a strain on any part is avoided. They may be gone through with simultaneously by the class and teacher counting in concert to each stroke, or the teacher counting alone. Easy exercises, accompanied by singing, for little ones, can be found in Hughes' "Drill and Calisthenics"; and "How to get strong," by Blaikie, contains a great variety of exercises suitable for school purposes, besides much other valuable information.

Position.—Pupils standing in the aisles single file, three feet apart, heads and necks erect, heels together, toes out at an angle of 45°, hands down at sides, with palms to the front.

1. Raise the hands directly over the head, and as high as possible, until the thumbs touch, the palms of the hands facing to the front, and the elbows being kept straight. Now, without bending the elbows, bring the hands downward in front towards the feet as far as can comfortably be done, generally at first about as low as the knees, taking care to keep the knees themselves absolutely straight—indeed, if possible, bowed even back. Now return the hands high over the head, and then repeat, say six times. This number twice a day for the first week will prove enough; and it may be increased to twelve the second, and maintained at that thereafter, care being taken to assure two things: one, that the knees are never bent; the other, that after the first week the hands are gradually brought lower down, until they touch the toes. The end sought in this exercise is to make the pupil stand straight on his feet, and to remove all tendency towards holding the knees slightly bent, and causing that weak, shaky, and "sprung" look about the knees, so very common, to give way to a proper position.

2. *Position.*—Arms akimbo, heels four inches apart, toes pointing outward, body erect. *One.*—Raise the heels off the floor, till the whole weight of the body rests on the soles and toes of the feet; pause a second. *Two.*—Lower the heels slowly till they rest on the floor. Repeat six times twice a day for the first week, double that number the second week, and maintain at that. This exercise strengthens the muscles of the legs from the knees down, giving firmness and elasticity to the step in walking.

3. Position as in No. 1. Raise the hands above the head, elbows straight, till the thumbs touch. Now never bending the body or knees a hair's breadth, and keeping the elbows unbent, bring the hands slowly down, not in front this time, but at the sides just above the knees, the little finger and inner edge of the hand alone touching the legs, and the palms facing straight in front. Now notice how difficult it is to warp the shoulders forward even an inch. The chest is out, the head and neck are erect, the shoulders are held low, and the knees straight. The whole frame is so held, that every vital organ has free scope, and their healthier and more vigorous action encouraged. If steadily practised, it is one of the very best known exercises, and not only gives strength, but a fine erect carriage. Carry the hands slowly back through the same line till again over the head. Then bring them down to the sides again, and do six of these movements twice each day the first week, and twelve afterward.

4. Position as in No. 2. *One.*—Bend the knees gradually, bringing the body down in a stooping posture, as low as possible, taking care to keep the back straight all the while. *Two.*—Now rise till the knees are straight. Repeat six times twice a day for the first week; for the second week and thereafter, double that number. This exercise strengthens the thighs, and permits continuous walking and standing without fatigue.

5. *One.*—Hands clenched and thrown forcibly back as high as the shoulders, elbows near the sides, nails to the front. *Two.*—Throw them as high as possible. *Three.*—Bring them back to the shoulders as in *One*. *Four.*—Bring them to the sides. Continue 1, 2, 3, 4, at least five times. The whole exercise should be performed with considerable energy. This movement develops the chest and arms, and is one of the most important. If the hands are tightly clenched in *One* and thrown open in *Two*, shut again in *Three* and opened in *Four*, this additional work will be found to tell directly on the shapeliness, and strength of the hands.

This set of exercises will take only five minutes if gone through with properly.

J. B. Somerset, P. S. J.
John H. Comfort, M.D.
W. F. Rittenhouse,
Louise Darche,
} Committee.

THIRD CLASS TEACHERS' PROFESSIONAL EXAMINATION HELD AT LINDSAY.

DECEMBER 17TH AND 18TH, 1880.

MENTAL ARITHMETIC.

Examiner—H. Reazin.

Time—One minute for each question.

1. Find the least number whose factors are 4, 3, 12 and 15.
2. One half of a number plus 24 is 4544. Find the number.
3. The quotient is 1360, divisor 12, remainder 8. Find the dividend.
4. MDL+XL+XIX+255.
5. How many minutes from 9.45 a.m. to 5.15 p.m.?
6. Find the sum of all the even numbers between 111 and 121.
7. How many pence in 5,214 shillings?
8. To the L.C.M. of 21 and 48 add the G.C.M. of 143 and 187.
9. $\frac{1}{2}+\frac{1}{3}+\frac{1}{4}+\frac{1}{5}+\frac{1}{6}$.
10. How many more five cent. pieces than 25 cent pieces in $28.
11. Simplify $3\frac{1}{2}+\frac{\frac{1}{2}+\frac{1}{3}}{\frac{1}{12}}+\frac{\frac{1}{3}+\frac{1}{4}}{\frac{1}{12}}-1\frac{1}{2}$.
12. How many men can do a work in 2 days which 3 men can do in 18 days?
13. At $1.96 per gallon, what will be the cost of 2 quarts, 1 pint, and 1 gill?
14. Find the interest on $360 at 10 per cent. per annum for 13 months.
15. Simplify $\{\sqrt{(14+15+16)^2-2000}+\frac{1}{2}\}\times 5\frac{1}{2}$.

EDUCATION.

Examiner—J. H. Knight.

1. In what classes should the following subjects be taught, viz.: Geography, Drawing, Object Lessons, Grammar, and Canadian History?
2. What Arithmetic should be taught in the Third Class?
3. How should you conduct a class in Dictation?
4. In some schools pupils frequently lie, steal, swear, backbite, copy and injure property. In other schools these offences are rare. How do you account for the difference?
5. Discuss "good and bad definitions."

3. What are the defects of Grammar as generally taught, as a step to Composition?
7. How would you teach Comparison of Adjectives?
8. How would you deal with bad grammar in the conversation of pupils?
9. Define "cramming," and give examples.
10. When is a person "over-educated?"

Value 100—10 marks for each question.

HYGIENE.

EXAMINER—JAMES WHITE.

1. Describe briefly the structure of the heart and the manner in which the blood is purified.
2. State the effects of pure air, sunshine and exercise upon the health of the individual.
3. Classify foods, and state the kinds best suited to young pupils and sedentary persons.
4. Shew the necessity for proper light and ventilation, and state the means you would take to secure them in your school.
5. What are the functions of the skin? What directions about bathing would you give your pupils?

SCHOOL LAW.

EXAMINER—O. J. BROWN.

1. What is the law relative to compulsory education?
2. From what sources do we derive school grants?
3. What are the chief duties and powers of head masters of public schools?
4. Who are recognized as school visitors?
5. When are school trustees elected? Who are legal voters? How are the elections conducted?

THE YOUNG IDEA SHOOTING.

Some rather peculiar answers were given to several questions propounded to candidates for entrance to Goderich High School at the recent examination. The following are some of the most amusing:

"Self-taxation," means the trying of one's brain, means getting confused. "Self-taxation" is the king taxing the people himself. "Self-taxation" means to pay their respects. "Self-taxation" was a rule that every man held his land from a lord or chief, whose man or vassal he became.

"To do homage," is that the king should give his people homes and was not to tax for it. "To do homage" is to visit their own country. "To do homage" is to do good. "To do homage" is to put anybody on the throne.

"Ministers of the Crown" are those who preach to the sovereign or ruler. "Ministers of the Crown" are the chief persons that flourish while the country is being governed. "Ministers of the Crown" are those who minister to the wants of the king.

"Prime Minister" is one who stays at the same church all the time.

In accounting for the trouble between Charles I. and the Parliament: "Then Charles revived the system of benevolence by calling rich subjects before him, and granting them large presents, which they dared not refuse."

"Limited Monarchy" is when it is at an end.

"Free Trade" means when they have laws to prevent them doing what they liked. "Free Trade" is the trade for fishing along the shore, or selling whatever they like, and can do what they think best. "Free Trade" is that a man buys a piece of land, and pays for it and receives a deed for it and is subject to nothing but the taxes of the country. "Free Trade" is trade carried on without any money to pay for it.

"The Whig party" was an army which tried to skirmish every town. "The Whig Party" is the Conservatives. "The Whig Party" are the ones that wish for progress, and they don't in general dress so gay as the Tories.—*Huron Signal.*

Notes and News.

ONTARIO.

Miss Forgie, who has been teacher in the public school at Lanark for six years, was presented on Christmas evening with a handsome writing-desk and a work box. During Miss Forgie's residence in Lanark she has been an active worker both in church and Sunday school matters, having had charge of a class since she went there. An address accompanying the presentation expressed the appreciation of her many friends of the earnest, indefatigable and self-denying service rendered the children under her charge.

The examination of U. S. S. No. 5, Ellice and Downie, was held on the 23rd ult. There was a fair attendance of parents and visitors. The pupils were examined by Messrs. Ryan, Macgregor, Ludwig and Thompson, and Misses Thompson and Milne, and acquitted themselves creditably. At the close of the examination of the junior division, the pupils presented Miss Louisa Johnston, who has discharged the duties of assistant teacher in the school for the past three years, with a neatly worded address, a gold locket and a toilet set. Miss Johnston feelingly acknowledged the gifts. The address was read by Miss Dollie Pigeon and the presentation made by Miss Louisa Kline. Miss Milne, of Downie, takes charge of the junior classes of our school for the present year.

Forty-two pupils passed at the recent entrance examination to Brockville High School. Perth passed thirty-three out of seventy-one, and Smith's Falls twenty-nine out of thirty-two.

Miss Annie Sawyer, who has been employed by the Public School Board of Chatham during the past three years, was presented with a handsomely bound copy of Tennyson's poems, as a mark of the appreciation in which they held her services. Miss Sawyer's services were appreciated by parents as well as by the children, and the fact that the School Board had retained her services for so long a time shows that they had not been blind in that direction either. Miss Sawyer is going to attend the St. Catharines High School during the ensuing year with a view of studying for a second-class certificate.

The Education Committee of the Carleton County Council have thrown out the charges preferred by John Duncan against the Rev. John May, County Inspector.

A handsome gold chain has been presented by the pupils of S. S. No. 1, Minto, to Mr. Cameron, the teacher.

After much patient waiting, the Perth High School has at last been converted into a Collegiate Institute, as will be seen by the official notification from the Educational Department, Toronto, received on January 5th, and dated 30th Dec., 1880:—"The Committee of Council advise that the name of the Perth Collegiate Institute, with all the privileges conferred by the law and regulations on Collegiate Institutes, be conferred on the Perth High School." The Perth school, therefore, ranks as a Collegiate Institute from this date, with an additional government grant of $750.

Of the 140 candidates who wrote at the recent High School entrance examination, at London. 45 per cent. of the pupils from the Central School, and 42 per cent. from the separate and county schools were successful.

On Friday morning preceding Christmas day, Mr. Bisset, the head master of L'Orignal schools, was waited on and presented with a very handsome and valuable china tea set, comprising 42 pieces, by the scholars. An appropriate address was read and presented by Masters J. D. Cameron and Geo. Fulford, on behalf of all the scholars, and much enthusiasm was manifested. It must be gratifying to Mr. Bisset and his friends, as such tokens always indicate the feeling of esteem and respect which should at all times exist between master and pupils.

We regret to learn that Mr. D. A. McMichael, Principal of the Strathroy High School, has been compelled to resign, owing to ill health. This gentleman has been head master of this school for some seven years, and has during that time proved himself one of the most successful teachers in the Province. Indeed it can be truly said that he raised the Strathroy High School to such an exalted position that for the past two or three years it has stood in advance of all the high schools in Ontario. Knowing this gentleman from the first day he entered upon his duties in the town

spoken of, we can heartily endorse the words of the London *Advertiser*, when it says that Mr. McMichael has "proved himself to be a perfect gentleman in his intercourse with his pupils and with society, a consistent Christian, and a most thorough, painstaking and successful teacher." We sincerely hope he may be speedily restored to good health.

The following items about the Chatham Separate Schools will be read with interest. The total number of pupils on register, 340; boys 140, girls 200; pupils in 1st reading book, 144; in 2nd reader, 50; in 3rd, 61; in 4th, 64; in 5th, 21; number of pupils in spelling and dictation, 250; number in writing, 400; in arithmetic, 340; in geography, 226; in vocal music, 200; in grammar and composition, 115; Canadian history, 13; English history, 16; general history, 12; domestic economy, 180; book-keeping, 6. The trustees visited the school twelve times during the year, and there were forty other visits. The boys' department is under the control of two male teachers. The principal holds a 2nd class provincial certificate, and the assistant holds a diploma from the Jacques Cartier Normal School, Montreal, and from McGill College. The female deparment is under the control of the nuns of the Ursuline Convent.

Rev. Mr. Mulvany, of the *School Examiner*, delivered his lecture on "Three Types of English Literature," at Pickering College, before a large audience, in spite of the storm which drifted the roads. He visited the various departments of the College and was pleased to observe the excellence of the arrangements and the courtesy of all connected with the College.

NOVA SCOTIA.

The Board of School Commissioners for Halifax city has filled the vacancy in the chair of Mathematics and Science in the high school by the appointment of Alexander McKay, Esq., for the past ten years Principal of the Dartmouth high school.

At a meeting of the Dartmouth town council, called to consider the subject of Mr. McKay's resignation, his honor the Warden expressed, in the strongest terms, the regret of the community at losing so faithful and successful a Principal of their public schools. Councillor Russell, in moving that Mr. McKay's resignation be accepted, took occasion to refer to the long period of his service, his educational zeal, his organizing faculty, his sound scholarship and remarkable skill in imparting knowledge. Other councillors spoke to the same effect. Mr. McKay's mathematical and scientific attainments are of a high order.

In the death of Mr. McMillan, teacher of the highest department of the public schools of the town (below the Academy), the school system of Pictou has suffered a serious loss. Mr. McMillan was confessedly one of the best teachers in the province, and Pictou Academy owes somewhat of its fame in later years to the excellent preparation which its students received while in his (preparatory) department.

At the Christmas entrance examinations of the Halifax high schools there were twenty candidates for Honor (or Free) scholarships, of whom eighteen were successful.

Arthur W. Armstrong, A.B. (Acadia, 1879), has left the select school at Port Hawkesbury, C.B., and assumed the Vice-Principalship of the Horton Collegiate Academy.

A very full and interesting meeting of the Senate of the University of Halifax, was held on the 29th and 30th of December. The Chancellor, the Rev. Geo. W. Hill, D.C.L., delivered an exhaustive address, dealing most fully with the present status of the university, and its prospects for the future. Want of space prevents us from giving more than a bare summary of the arguments alleged. A statement in full was given of the services rendered to education by the University of Halifax, and its claim to be the central examining body for the various colleges of the province. This was criticised by Messrs. Reid, Ambrose, Ross and others, to whom D. Allison replied. We hope to give a fuller account in our next issue.

We would refer our readers to the advertisement of Dalhousie College and University, Halifax, N.S., which offers attractive Exhibitions and Bursaries for competition at the winter sessions of 1881, 1882 and 1883. These have been presented by Geo. Munro, Esq., of New York, U.S., and should be a stimulus to candidates.

Quite an interesting discussion, or controversy, has sprung up in the Halifax papers on the "Higher Education" question, originated apparently by the address of the Chancellor of the University of Halifax.

Dr. McGregor, Professor of Physics in Dalhousie College, has published in the *Herald* and *Mail* an elaborate series of letters discussing almost every phase of the college problem. He takes ground against an examining university, and outlines a scheme for the consolidation of King's and Dalhousie Colleges. Rev. Dr. Sawyer has called in question the accuracy of one of the Professor's allusions to Acadia College.

Prof. Smith, of Sackville, has published several letters in reply to Prof. McGregor's series.

NEW BRUNSWICK.

The new edition of the "Manual of the School-law of New Brunswick," has recently been issued by the Education Department and distributed to trustees and others. It contains chapter 65 of the consolidated statutes, relating to schools, with the acts of 1878, 1879 and 1880 in amendment thereof and in addition thereto, and also the revised regulations of the Board of Education, accompanied with references and remarks, as heretofore.

James Hannay's "History of Acadia," which is supplied to the teachers of New Brunswick by the Board of Education at $1.00 a copy, has been republished in London, England.

On Thursday, the 13th of January, according to statute, the annual school meetings were held throughout the country. So far as known, the results were favorable, the districts generally voting sums adequate for the support of the schools. In many districts there were expressions of satisfaction in reference to the rank assigned to their schools by the Inspector on his annual visitation.

In reference to the special claims of teachers, who, during the year ended Oct. 31, 1880, taught in two different districts, and whose schools were in consequence not ranked by the Inspector in both terms, the Board of Education has allowed such teachers a claim for bonus either according to the rank received by the school under his charge at the time of the Inspector's visit, or according to the rank assigned to the school taught by him during the other half-year, as may be most favorable to the teacher. Of course this applies only to the year past, as hereafter the regulations already quoted in the JOURNAL will be in force.

Through some failure on the part of the Inspector for Dist. No. 5, some schools were not inspected last year. In view of this fact, the Board of Education has ordered that such teachers shall be entitled to bonus according to the rank that may be assigned to them or their school when first inspected,

The coming session of the Legislature will be held in the Normal School building, at Fredericton, as last year. During that time, a portion of the classes will be accommodated, as well as circumstances will permit, in the old stone barracks, now the "Reform Club" building. This will subject the instructors and the student-teachers to great inconvenience, but it appears to be unavoidable.

MANITOBA.

The total number of children, from the ages of five to fifteen years inclusive, in the 113 Protestant school districts from which census returns were made, was 5,631. The school population in all the Protestant districts is estimated at 7,000, and there are several settled localities in the province not as yet included in school districts.

All the teachers in the city schools have been re-engaged, with the exception of Mr. P. C. McIntyre, who has retired from the profession. His brother, Mr. W. A. McIntyre, takes his position, the salary being $800 per annum; and Mr. E. A. Ganatt, who, at the last examination headed the list of successful candidates in the second class, has been chosen to fill Mr. W. A. McIntyre's position as the third male teacher, at a salary of $700. The head teacher, Mr. J. B. Ferguson, gets $1,000, and the female teachers $480 each.

Mr. A. J. Belch has just resigned the position of Chairman of the Protestant Board of School Trustees for the City of Winnipeg, on account of having to take charge of the Dominion Lands' office at Birtle, N.W.T. He has filled the position in a very admirable manner. Mr. Stewart Mulvey, Collector of Inland Revenue, has been unanimously elected to the vacancy. Mr. Mulvey, who came to Manitoba as an officer in the Red River expeditionary force, in 1870, has been a school trustee in the city since the organization of the Public School system in 1871. No man has done more to bring the city schools up to their present prosperous condition than Mr. Mulvey. For the past five or six years he has been one of the most zealous and efficient members of the Provincial Board of Education.

There are twenty applicants for the position of Inspector of the city schools. The appointment will probably not be made until after the trustee elections, which take place on the first Tuesday in February.

The village of Portage la Prairie, having recently become incorporated as a town, the limits of the school districts are to be made to correspond with those of the town, so that advantage may be taken of the special clauses in the school law, which relate to cities and towns. A large number of new school districts have been organized lately.

St. John's College and St. John's Ladies' School re-open on Monday, 17th inst.

Rev. Professor Bryce, M. A., LL.B., has returned from his trip to Ontario.

One of the greatest drawbacks to the advancement of this country, in the past, has been the want of schools, caused by the difficulty in maintaining them in sparsely settled districts. To-day, we have the pleasure of announcing that, in compliance with the urgent representation of His Honor the Lieut.-Governor, the Dominion government has decided to grant aid to such schools in the territories as comply with very simple conditions. It will now be within the power of every settlement to establish within its borders, schools for the education of its youth, as the Government, with commendable liberality, agrees to pay one-half of the salary of the teachers of every school at which there is an average daily attendance of fifteen pupils.

Additional aid is also to be given to schools on Indian reserves, the maximum amount of salary to be paid to teachers being raised from $300 to $500—this sum, however, only to be paid where the average daily attendance is large enough to call for it at the *pro rata* allowance of $12 a day, for each pupil over the minimum number required to entitle the school to any aid. In this connection there are also some provisions made with a view to secure efficiency in the teachers, by requiring them to pass an examination as to qualification.

We trust that every settlement in the territories will at once avail itself of the means now placed at their disposal to further education, and would urge upon them the advisability of, as far as possible, securing well-qualified teachers to begin the good work upon a solid basis, for it is a great mistake to suppose that any other than a well-qualified person is "good enough" for the schools of a new country.—*Saskatchewan Herald.*

Readings and Recitations.

DRIFTED OUT TO SEA.

Two little ones grew tired of play,
Roamed by the sea one summer day,
Watching the great waves come and go,
Prattling, as children will, you know,
Of dolls and marbles, kites and strings,
Sometimes hinting at graver things.

At last they spied within their reach
An old boat cast upon the beach,
Helter-skelter, with merry din,
Over its sides they clambered in—
Ben, with his tangled nut-brown hair;
Bess, with her sweet face flushed and fair.

Rolling in from the briny deep,
Nearer and nearer the great waves creep;
Higher and higher upon the sands,
Reaching out with their giant hands,
Grasping the boat in boisterous glee,
Tossing it up and out to sea.

The sun went down, 'mid clouds of gold;
Night came with footsteps damp and cold,
Day dawned; the hours crept slowly by;
And now, across the sunny sky,
A black cloud stretches far away
And shuts the golden gates of day.

A storm came on with flash and roar,
While all the sky is shrouded o'er,
The great waves rolling from the West,
Bring night and darkness on their breast,
Still floats the boat through driving storm
Protected by God's powerful arm.

The home-bound vessel, "Seabird, lies,"
In ready trim, 'twixt sea and skies.
Her captain paces restless now,
A troubled look upon his brow,
While all his nerves with terror thrill—
The shadow of some coming ill.

The mate comes up to where he stands,
And grasps his arm with eager hands;
"A boat has just swept past;" cried he,
"Bearing two children out to sea,
'Tis dangerous now to put about.
Yet *they* cannot be saved without."

"Naught but their safety will suffice,
They must be saved!" the captain cries,
"By every hope that's just and right;
By lips I hoped to kiss to-night,
I'll peril vessel, life and men
And God will not forsake me then."

With anxious faces, one and all,
Each man responded to the call;
And when, at last, through driving storm,
They lifted up each little form,
The captain started with a groan,
"My God!" he cried, "they are my own."

—*By the author of "Curfew Must not Ring To-night."*

THE JOLLY OLD PEDAGOGUE.

'Twas a jolly old pedagogue, long ago,
Tall and slender, and sallow and dry;
His form was bent, and his gait was slow,
His long thin hair was white as snow,
But a wonderful twinkle shone in his eye;
And he sang every night as he went to bed,
"Let us be happy down here below;
The living must live though the dead be dead,"
Said the jolly old pedagogue, long ago.

He taught his scholars the rule of three,
Writing, and reading, and history, too;
He took the little ones up on his knee,—
For a kind old heart in his breast had he,—
And the wants of the littlest child he knew.
"Learn when you're young," he often said,
"There's much to enjoy down here below;
Life for the living and rest for the dead,"
Said the jolly old pedagogue, long ago.

With the stupidest boy he was kind and cool,
Speaking only in gentlest tones;
The rod was hardly known in his school,—
Whipping to him was a barbarous rule,
And too hard work for his poor old bones;
Besides it was painful, he sometimes said,
"We must make life pleasant here below,
The living need charity more than the dead."
Said the jolly old pedagogue, long ago.

He lived in the house by the hawthorn lane,
With the roses and woodbine over the door;
His room was quiet, and neat, and plain,
But a spirit of comfort here held reign,
And made him forget he was old and poor;
"I need so little," he often said,
"And my friends and relatives here below
Won't litigate over me when I am dead,"
Said the jolly old pedagogue, long ago.

He smoked his pipe in the balmy air
Every night when the sun went down,
While the soft wind played in his silvery hair,
Leaving the tenderest kisses there,
On the jolly old pedagogue's jolly old crown;
And feeling the kisses, he smiled and said,
"'Twas a glorious world down here below;
Why wait for happiness till we are dead?"
Said the jolly old pedagogue, long ago.

He sat in his door one summer night,
After the sun had sunk in the West,
And the lingering beams of golden light
Made his kindly old face look warm and bright,
While the odorous night-wind whispered rest!
Gently, gently he bowed his head,—
There were angels waiting for him I know;
He was sure of happiness, living or dead,
This jolly old pedagogue, long ago.

—*George Arnold.*

ANSWERS TO QUERIES.

A correspondent sends us the following answers given by a Candidate at the last Entrance Examination :—

Question.—"What was the cause of the trouble between King Charles I. and his Parliament?"

Answer.—"When King Charles had a Parliament he wanted some money and they wouldent give him any unless he signed them a law they wanted him to and he wouldent signe it and he got mad and layed down upon the floor and roled over and kicked, screamed and tumbled around in a great rate and at last he signed it and they granted him some money."

Question.—"Show how England and Scotland came to be one kingdom?"

Answer.—"They was a man who used to stop in this castle and he had a girl he used to go and see at the foot of the castle and he used to go in the night and he had a road down the rocks which he new quite well and he told the English that he good take about 30 men up those rocks at night when they were all asleep and take the castle and he done it and took the castle of Edinburgh and so Scotland and England became one kingdom."

Official Department.

1. Under sub-section 22 of section 4 of chapter, of the Revised Statutes, the Education Department is empowered to examine, and at its discretion to recommend or disapprove of text-books for the use of schools.

2. By section 11 of the Public School Act the use of foreign books in the English branches of education in any model or public school is prohibited, unless with the express permission of the Education Department; and by section 12 the portion of the legislative school grant may be withheld from any school in which any book disapproved by the department is used, when public notice of such disapproval has been given.

3. The authority over text-books includes those for high as well as public schools, and such text-books as foreign books in the English branches of education, and those disapproved of by the Education Department, are excluded.

4. While regulations of the department have been framed from time to time with the view of accomplishing these objects, those of the late Council of Public Instruction were revised by the undersigned, and in July, 1877, effect given thereto by order-in-council, and experience since has shown that further amendments in these, respecting text-books in the public schools, were desirable, in the following amongst other particulars:

(1) To confine the text-books approved, to the several subjects in the public school course of study, except in any subject in which no text-book was necessary, owing to the personal instruction of the teacher therein being chiefly relied upon.

(2) The editions of the Readers and many other authorized text-books heretofore printed and published were not examined by the department as thoroughly as can be done under improved machinery for this purpose.

(3) Upon a personal examination the undersigned found that the editions of Readers published by several publishers were poor in paper, printing and binding, and that the requirements for this were not sufficiently defined to ensure a satisfactory uniform standard, and the public was unable to discriminate between books deemed sufficient by the department as to mechanical execution and those which were not.

(4) The maximum retail price of several text-books was also fairly the subject of consideration, owing to the benefits arising from authorization notwithstanding the increase under the present tariff of cost of material used in printing and publishing, such as in type of of 15 per cent. and in five articles formerly free 15 per cent., also an increase of one cent per lb. on Canadian paper owing to the increase of duty of 20 to 25 per cent. on imported paper. The reduction now made in the maximum retail prices are, according to per centage: in the Readers about 30; Fleming's Analysis, 20; Abbott's How to Parse, 40; Elements of Etymology, $16\frac{2}{3}$; Arithmetics, 20; Orr's Accountant, 25; Pott's Geometry, $33\frac{1}{3}$; in others, 5, and in several they remain the same. Besides the increased cost of production, the element of profit from larger or smaller sales has also been considered. In the case of the two text-books, published only in England, it has been found necessary under the present tariff to increase the equivalent in Canadian currency to 30 cents for one shilling sterling.

(5) In the new arrangement it can be readily seen what text-books are approved of in each subject of the public school course, and the opportunity is thus afforded of choosing any one from the several text-books so approved.

(6) The requisites now prescribed in order to secure the proper mechanical execution of each copy of every edition to be printed hereafter are clearly defined in the new regulations, and the public will now be fully informed, both as to such editions as have been approved by the undersigned, and as to the retail price to be paid therefor.

(7) Each printer or publisher is required to allow of an examination of his stock on hand from time to time, by an officer of the department, and to execute a covenant to conform to the regulation.

(8) The regulations may be reconsidered as to further reductions in the retail price as future circumstances may warrant.

REVIEWS.

Moffatt's Explanatory Reader, No. 5. *Moffatt & Paize, London.* The explanatory series is a very good series of readers throughout. The paper and type used are so good that a school boy in Ontario would hardly believe that this book was intended for a school reader. The selections aim to combine practical information with literary merit.

Witmer's Phonetic Orthography. *Egertsville, N. Y.* This little work is intended to show how phonetic spelling might be adapted to English and German.

The Grammar School Word-Book. *By Edward Altham. New York: Daniel Slote & Co.* This is a spelling book, combined with a selection of the most important Greek and Latin prefixes, affixes and roots. Both the words and the etymology are arranged in suitable divisions for the various grades of pupils. The selections of words are good for drill.

First Steps in Reading and Learning. *By A. K. Isbister, M.A., LL.B. London: Longman, Green & Co.* This book is designed by its author to "utilize the time of those learning to read by presenting in a series of easy lessons a first course of English and Scripture History, Geography, Grammar, Spelling and Arithmetic, with moral lessons and simple poetry for repetition." In addition to this extensive programme writing lessons are given. The book may be regarded as a cyclopœdia of all that a young pupil should have to do in school, and an outlook over what is to come in the future. The lessons are arranged in Mr. Isbister's practical style. Multiplication and Division tables, for instance, are combined in a way that would be suggestive to most teachers of primary classes. The same remark applies to the arrangement of the lessons throughout the book.

The National Hymn and Tune Book. *By Luther W. Mason, late Superintendent of Music in Boston Schools. Boston: Ginn & Heath.* This collection of sacred music is intended for use in public schools. There is no reason why only secular pieces should be sung in public schools, and Mr. Mason has done a great good for the profession by selecting the best unsectarian hymns of all ages, and adapting to them the grandest of the standard tunes. Mr. Mason's long experience eminently fits him for preparing a work adapted to the tastes of boys and girls, and without containing anything trashy or degrading to the taste, either literary or musical.

School Management. *By Amos M. Kellogg. New York: E. L. Kellogg & Co.* This work is written by a successful, practical teacher, who has no mere theories to advocate. Mr. Kellogg was for some time in charge of the practice department of the Albany State Normal School, and is now editor of the *New York School Journal.* The book is a compendium of suggestions regarding the best method of dealing with all kinds of difficulties that present themselves to teachers. These difficulties are treated in the light of experience, not merely in the haze of opinion. Inexperienced teachers will find this book one of the approximately "royal roads to learning" how to "keep school."

The Pink Guide and The Grey Guide are handbooks in pamphlet form, useful to those preparing for examination in musical knowledge, instrumental and vocal. They are compiled by Frederic Clark, Secretary to Trinity College, London, and published by W. Reeves, 185 Fleet Street. They contain excellent hints, sets of examination questions in music, and not a few points of useful, practical instruction.

We have received two additional volumes of Hudson's series of Shakes-

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SCIENCE AND SCHOOL DEPARTMENT—THOS. KIRKLAND, M.A., *Science Master Normal, School, Toronto.*
W. SCOTT, B.A., *Head Master Provincial Model School, Ontario.*

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ENGLAND.

No better proof of the excellence of this book can be given than the following quotation from the *Educational Times*, the organ of the College of Preceptors, England, and the highest authority on educational matters in Great Britain:

"This is the work of a Canadian Teacher and Inspector, whose name is honorably known beyond the bounds of his native province, for his exertions in developing and promoting that admirable system of public instruction, which has placed the Dominion of Canada so high, as regards education, not only among the British Colonies, but among the civilized nations of the world. We know of no work in this country that exactly occupies the place of Dr. McLellan's, which is not merely a text book of Algebra, in the ordinary sense, but a Manual of Methods for Teachers, illustrating the best and most recent treatment of algebraical problems and solutions of every kind.

Teachers who wish to lay a good foundation for their pupils before proceeding to the higher branches of Mathematics, will do well to obtain Dr. McLellan's volume, which contains within a small compass one of the best collections of modern algebraical problems "gathered from the works of the great masters of analysis," which has come under our notice for a considerable time."

FRANCE.

From one of the ablest living Mathematicians, Monsieur Paul Mansion, Professor of Mathematics in the University of Ghent, Assistant-Editor of "Nouvelle Correspondence Mathem Mathematique," and Editor in Chief of "Mathises," &c. His writings have twice been crowned by the Royal Academy of Belgium, and he was awarded, in 1872, Great Prize in Mathematical Science. He says of the Hand-Book:—"I have found the Work of M. McLellan extremely well adapted to its purpose. It is one of those rare works that fulfil all the promises of the preface. I have especially admired the skilful way in which he has brought within the compass of Elementary Algebra a class of questions which we, in our French and German books, only introduce into the parts exclusively taught in Universities."

UNITED STATES.

From Barnes' Educational Monthly, N.Y.—"The best American Algebra for Teachers that we have ever examined."

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peare's plays, published by Ginn and Heath, Boston. King Richard the Third contains an introduction occupying 44 pages. The text, with explanatory notes at the foot of the page, occupies 156 pages, and the critical notes 18 pages. Henry IV., Part First, contains an introduction of 51 pages, 137 pages of text with foot-notes, and 17 pages of critical notes. We have already expressed our opinion that this series is, for school and family reading, the best in the market.

First Greek Writer; with exercises and vocabularies; by A. Sidgwick M. A. *Rivingtons*. This book is designed to help those who are beginning Greek to write the language from the first—a plan that ought to be followed by every teacher that wishes to turn out good Greek scholars. Pupils begin to write Latin from the first; why should not the same course be followed in Greek? If one-third of the time spent in our schools in translating Greek were spent in *writing* Greek, the results would be greatly more satisfactory. The *First Greek Writer* deals chiefly with difficulties of Accidence; but those of Syntax and Idiom are, of course, treated wherever necessary. The book is, from the first, *progressive*; the first few exercises require no knowledge, except of the A declension; then the pupil advances to the other declensions, then to the easier tenses of the verb, then to the harder tenses, &c. The same progressive character has been kept in view in introducing the *usages*—as the participial usages, the Genitive Absolute, the construction of verbs, "Final" clauses,&c. Last, but not least, *all the exercises are given in narrative form.* We recommend this book, with the utmost confidence, to the teachers and students of Greek throughout the Dominion.

Practical Greek Method, by Ritchie and Moore. *Primer of Greek Syntax*, by E. D. Mansfield. *Beginners' Latin Exercise Book*, by C. S. Dawe. *First Steps in Latin*, by F. Ritchie. These are capital elementary school books, which we recommend to the notice of teachers. They are published by *Rivingtons*, (London, Oxford and Cambridge) who are becoming famous for their excellent series of school books in every department.

MAGAZINES.

THE POPULAR SCIENCE MONTHLY is always welcome, but the February issue is especially attractive. Politicians abound with us, but if we have any thinkers on political science they will be deeply interested in the first article of this number, by Herbert Spencer, on "Political Differentiation." He is tracing the early development of political institutions, and in this chapter he elucidates the growth of those class distinctions which form so large a part of the constitution of civilized societies. The second article, on "Diet," by Dr. Felix L. Oswald, in his series on "Physical Education," deals with stimulants and all kinds of irritants and provocatives which are come to be so extensively employed with proper foods. The article is full of valuable suggestions pointedly presented, and the writer gives no quarter to what he denominates the poison-habit, There is next an elaborate and richly illustrated article by Eliza A. Youmans. describing the recent remarkable discoveries of Charles Darwin on the "Movement of Plants." He has found that the growing parts of all living plants—the leaves, and even the tips of the rootlets—tend to gyrate or revolve in the most extraordinary manner. This Mr. Darwin calls circumnutation, which means, literally, bowing or nodding around, and the extent of this action and the ingenious methods by which it has been traced out and automatically recorded form a fascinating chapter of botany. Professor Carhart has an admirably clear and practical article on "Atmospheric Electricity"; and Professor Silvanus P. Thompson has a fine paper on the "Optical Illusions of Motion," which contains many original ideas. Chemical readers will be struck with the amount of evidence that has been brought together by Mr. Lester F. Ward on the "Evolution of the Chemical Elements." It has a profound bearing on modern cosmological speculation.

SCRIBNER'S MONTHLY for February opens with a finely illustrated article "An Old Virginian Town," which shows the customs and manners of the aristocratic State in colonial times. Among the other articles of note are "Thackeray's relations to English Society," "How the New Testament came down to us," "Some Quacks," by Edward Eggleston; and "Agricultural Experiment stations." The editorial department is better than usual. There are three very good poems in the Bric-a-Brac column, and Mrs. F. Hodgson Burnett gives the opening chapters of what promises to be a very sprightly story, "A Fair Barbarian," in which are related the startling results of the advent of a wealthy American girl upon the stately society of an antiquated English village.

THE MUSICAL TIMES for December contains "A New Year's Carol," composed by James Shaw, to the words, "Ere the Daylight Tints the Snow" from "Songs for Music," with a full-score accompaniment. It is written in F Major, and contains some extremely expressive passages. The letter-press gives a critical chapter on Ponchielli's Opera, "I Promessi Sposi;" a sketch of "Chevalier Gluck," and the usual notices of musical events, reviews, &c. The magazine is published monthly by Messrs. Novello, Ewer & Co., London, England.

The February number of THE ATLANTIC MONTHLY has reached us. It contains additional instalments of the two serial stories, viz.: "Friends, a Duet," by Elizabeth Stuart Phelps; and "The Portrait of a Lady," by Henry James, Jr. William M. Rossetti contributes a second article on "The Wives of the Poets." The tenth chapter of "Reminiscences of Washington," deals with the Taylor Administration, 1849, 1850. Henry Hall writes on "The Future of American Shipping," and Richard T. Ely on "German Co-operative Credit Unions." John Fiske discourses on "Who are the Aryans?" Richard Grant White tells his experience "In London Again," and Fanny Albert Doughty provides a short, complete story, entitled "Is anything Lost?" There are three short poems: "Night on the Ochlawaha," by C. E. S.; "In the Certosa," by Susan Coolidge; and "The Wizard Poet," by S. V. Cole The remaining contents are "Dexter's Congregationalism," "Recent Volumes of Short Stories," "The Spell-bound Fiddler," "Les Deux Masques of Saint Victor," "Mr. Tilton's Pictures," "The Contributors' Club," and "Books of the Month." A good number.

APPLETON'S JOURNAL, February. This magazine continues to improve. Its object is to provide intelligent readers with literature of a permanent and sterling character on all topics which affect public welfare and general culture. The present number is worthy of careful reading from beginning to end. "Rambles among Books," "Parliamentary anecdotes," "The Irish land Question." "Shakspeare's Traducers" and the "Photophone" are among the most readable The Editorial Department is fully as good as usual, with an additional sub-department, "Notes for Readers," which propose to give from month to month an analysis of the best new works published.

REPORTS.

Educational Report for the State of Indiana for two years ending Aug. 31, 1880, James H. Smart, Superintendent. A most admirable report with many excellent features. The most valuable portion is "Books and Reading for the Young," which has been published in separate form.

Publisher's Department.

Every teacher and Educationalist should take the CANADA SCHOOL JOURNAL. It is full of valuable matter upon all the educational questions of the time. —*Bowmanville Statesman, Jan.* 7.

We have received the Jan. No. of the CANADA SCHOOL JOURNAL. This is a very ably conducted educational journal, and well adapted to aid teachers in their important work. A good professional magazine is something that teachers cannot afford to be without, and no teacher will be disappointed on reading this well established journal. The editorial and the mathematical Departments of the present number are particularly instructive.—*Catholic Record, London.*

The CANADA SCHOOL JOURNAL for January is to hand. It is well filled with educational matters, and cannot but prove a valuable acquisition to teachers and others having to do with the schools of our country. Toronto: W. J. Gage & Co.—*Goderich Star.*

The CANADA SCHOOL JOURNAL announces its intention to urge upon the Education Department the duty of "making distinct and uncompromising temperance teaching, with clear information as to the physical and moral evils of strong drink," part of the programme in every public school. And now the axe is about to be laid to the root of the tree. Therefore Mr. CANADA SCHOOL JOURNAL, please to consider yourself patted on the head by Mr. *Grip.* Just as the twig is bent, you know. Have the youngsters' copybooks headed, "Look not upon the wine when it is red," "Vote for the Scott Act," "Wine is a mocker," and so on. And have diagrams of a drunkard's interior, in all stages of decomposition, hung round the walls of the public schools as a warning to embryo evil doers. (The etchings and illustrations to be furnished by *Grip.*) Finally, as in the days of ancient Sparta, have a few bummers primed with forty-rod, turned loose say twice a year in the playgrounds, as a practical example of "the physical and moral evils of strong drink." But mind you introduce this new wrinkle under the title of *Secular* Education, otherwise the L. V. Ass. will not only be all ears, but he'll be after you hot foot, to have it kicked out along with certain translations of Greek and Hebrew M. S. S., to which some take objection.—*Grip.*

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CANADA SCHOOL JOURNAL HAS RECEIVED

An Honorable Mention at Paris Exhibition, 1878.
Recommended by the Minister of Education for Ontario.
Recommended by the Council of Public Instruction, Quebec.
Recommended by Chief Superintendent of Education, New Brunswick.
Recommended by Chief Superintendent of Education, Nova Scotia.
Recommended by Chief Superintendent of Education, British Columbia.
Recommended by Chief Superintendent of Education, Manitoba.

The Publishers frequently receive letters from their friends complaining of the non-receipt of the JOURNAL. In explanation they would state, as subscriptions are necessarily payable in advance, the mailing clerks have instructions to discontinue the paper when a subscription expires. The clerks are, of course, unable to make any distinction in a list containing names from all parts of the United States and Canada.

INSPECTOR MARLING *VERSUS* MATHEMATICS.

The High School Inspectors' reports for 1879 are somewhat meagre. Dr. McLellan has no report at all; we hope the senior Inspector has not been terrified into silence by the hypercriticism of the *Mail.* Mr. Buchan's report calls for no comment. We regret to have to express the opinion that in some respects Mr. Marling's shows narrowness; it is certainly misleading in at least one important point: we refer to his attack on Mathematics.

He affirms (1) that "it is not uncommon to find fully five-eighths of the school time taken up with these subjects;" (2) that "the solution of problems is of but small educational value;" and (3) "that most of the mathematical teachers, especially University men, agree with him in his opinions."

Concerning these assertions we remark: (1) We have reasons for believing the first statement to be greatly exaggerated. Possibly there may be here and there a class composed of candidates for second class certificates, who enter a High School almost entirely ignorant of mathematics, and yet expect to be prepared for examination in from four to six months, whose members have to spend five-eighths of their school time in mathematical study. No value can be attached to a general statement based on such exceptional instances. Will Mr. Marling favor us with the name of a single High School noted for efficient mathematical teaching in which such a disproportionate attention is being paid to the subject?

(2) "The solution of problems is of but small educational value," says Mr. Marling. "In every problem which the pupil solves, the same faculties are exercised which in their higher degrees produced the greatest discoveries in Geometry," says John Stuart Mill. In a conflict of opinion between these gentlemen, we must be pardoned for agreeing with Mill.

(3) We are acquainted with several of the prominent mathematical teachers in our High Schools, and we do not know one who is "with" Mr. Marling in these assertions.

(4) Mr. Marling admits that the Intermediate Examination is acknowledged by "candid and judicious educationists conversant with our school history to have wrought a change in the teaching and the learning little short of marvellous." We believe, and we are confident that most teachers will agree with our opinion, that the "marvellous" change is largely due to mathematics.

The following general observations should be kept in view in considering this question:—

1. Few teachers will say that students of average ability with good mathematical teaching require five-eighths of their school time to acquire a sufficient knowledge of mathematics to pass the Intermediate Examination.

2. It is a recognized fact among the best teachers that, owing to improved methods of teaching mathematics, students now learn a given amount of elementary mathematics in about one-half the time needed ten years ago.

3. The examiners in all the Universities declare that students in all departments come better prepared for the matriculation examination than they did ten years ago. This clearly shows that the study of mathematics has not engrossed an undue share of attention, or prevented the thorough study of other subjects.

In view of these facts, Mr. Marling surely will not expect intelligent men to accept his unsupported assertion that the study of mathematics has proved and is proving injurious to the intellectual life of the rising generation. We are free to admit, however, that while we would regard it as decidedly unwise to teach mathematics less vigorously than at present, we think there is considerable force in the suggestion made in the Legislature by Dr. McLaughlin concerning the advisability of allowing girls an option between modern languages and mathematics beyond a certain minimum course.

HIGHER EDUCATION IN NOVA SCOTIA.

The question of provincial aid to the higher education continues to excite considerable thought and discussion in Nova Scotia. The statutory lapse of the grants to colleges has, as it were, forced the subject on public attention.

So far as we at this distance can gather, the clearage of opinion is not upon a single line. There is first the position of the friends of the denominational colleges. Most of these are agitating simply for a renewal of the grants from the public treasury, claiming that this system of combined provincial and (we do not use the word in an odious sense) sectarian sustentation is more economical for the Province than a concentration of its patronage on a single State-supported institution, and at the same time conducive to better educational results.

This view is directly combated by those who wish to accept existing legislation as final, and who oppose the renewals of the

grants in any form. This class seems to include both friends and foes of the project of a central teaching university. Then again, there are the friends of the established University of Halifax, including, it would appear, some from each of the two general classes mentioned, yet in some sense forming a class by themselves. At present one of the most obscure elements of the problem is the shape in which the University, which, our readers do not require to be told, is simply a degree-conferring institution, shall emerge from the imminent legislation discussion.

The *Morning Chronicle* (Opposition) concludes a series of articles (editorial) with a suggestion that the money voted by the Province to sustain collegiate education shall be distributed among the colleges on the basis of the relative work done, the tests to be applied through the agency of the Halifax University. This suggestion, though of course our position does not enable us to judge fully of its wisdom, seems to possess an element of common sense.

For the benefit of our readers we copy the conclusion of the *Chronicle's* article :

"Now, however straitened the Province may be financially, it is evident that a certain amount of money will have to be annually expended in fostering higher education; and the proper mode of subsidising the colleges, the sensible and rational plan of encouraging them to higher efforts, is to pay them for work actually done This can be easily effected by requiring every college desirous of participating in the distribution of the Provincial grant to send its candidates to the examinations held by the University of Halifax, the college being entitled to receive, for every candidate it passes through this by no means excessive ordeal, a certain sum, varying according to the grade of the examination. In this way the aid asserted to be required by the colleges can be obtained by them, the public will have the means of judging of the actual value of the education given at the several institutions, and will know that their money is well spent, and the University will discharge in full functions which at present it is unable to fulfil completely, owing to the peculiar position it occupies towards the colleges. This is, in brief, the scheme we propose, as the only reasonable substitute for that we prefer to all others, namely, a central teaching University, and which we propose as an alternative, because it is a step in the direction of progress, tending to uniformity in the character of the education given in our colleges, to healthy competition between them, and the only justifiable way of subsidising these institutions."

THE MINISTER OF EDUCATION ON THE ESTIMATES.

Like the man "just and tenacious of his purpose" described by Horace, the Minister of Education has maintained his position in spite of the sinister predictions of those who, for a purpose, have undertaken the *role* of educational pessimists. The Minister's speech on the Estimates consists of a plain array of facts, without disproving which it is impossible to contest the proposition that a great advance with regard to the examination and training of teachers, and the general working of the Department, has been made within the last few years, culminating in the present position of the educational system of the Province.

It is a fact that the year's expenditure of 1879 shows a diminution of $160,000 as compared with that of 1877, and yet the year 1879 shows an *increase in teachers' salaries* of $60,000. The decrease in the total is accounted for by the fact that school accommodation has been to a great degree provided for. *It is a fact* that the Normal Schools of Toronto and Ottawa are turning out an annual supply of between 260 and 300 trained teachers. *It is a fact* that the experiment of 1877 in establishing Model Schools has been a decided success. *It is a fact* that the examinations of teachers have been put on a footing that ensures efficiency and precludes unfair dealing or favoritism. *It is a fact* that the system of County Inspectors is a marked improvement on the *regime* of the Township Inspectors who preceded them, and that while for the necessities of unification and fair play, the examining power was centralized, in all the administrative details the utmost de-centralization had been attained in favor of the local trustees and County Councils. It is also a *fact*, in the face of *fictions* industriously circulated to the contrary, that no member of the central committee ever wrote a text-book.

The conclusion we have drawn from these facts is one patent enough to any one who has not been, as Mr. Gibson feared had unfortunately happened to the member for East Grey, asleep for the last five years.

HOME STUDY.

The relation of home study to school instruction is one of the vexed questions apt to cause friction between the authorities of home and school. Under the old *regime* of teaching, home was but the complement of school, the place where were prepared the "tasks" for the hour after hour of recitation of school-time. Who does not recollect with gratitude, that sweetest part of a holiday, the evening's exemption from study? Teachers ambitious of a high average of marks, and of the profit as well as the praise resulting therefrom, are perhaps given to push home study too far, and parents brought up under the same system are apt to measure the teacher's interest in pupils by the amount of book-work to be prepared at home.

On the other hand, it is urged that the hours given to school are quite sufficient for study; that recreation, the home-life, and exercise claim a share in the day on which "lessons" ought not to trench. In poorer families the help of a boy or girl is required by the parents, and the loss of that help in the afternoon or evening seems a very poor return for the effort made in sending them to school during the day.

The truth, as usual, lies probably in a middle position. All home study of new work should, as far as possible, be avoided until the body has outgrown the weakness of childhood. Till then, home study should consist of reviewing the instruction received during the day, with the single exception of going over the morning reading lesson. But for healthy, well-grown boys or girls, we have no fear that a fair amount of home study will injure their health, especially if proper attention be paid to drill and gymnastics during school hours. Far more harm is done to health, far more loss of natural sleep, overstrained nerves, and mental and bodily exhaustion are in reality caused by the premature and precocious social dissipation which even in country districts is so common among young people, whose health would be far better if they were left undisturbed at their studies. But for the younger scholars the habitual pre-

paration of lessons at school will ensure the advice and direction of the teacher, will greatly economise time, and render the great finder of work for "idle hands" an extinct Satan.

THE UNIVERSITY FIZZLE.

The great University grievance has loomed in vast proportions during the last six months in the happy hunting grounds of those ingenious journalists who have been so irrepressible in their attacks on the Educational Department, for reasons no doubt satisfactory to what, in the scientist slang of the day, we may call the "tribal conscience" of their party. We have been told, with somewhat, perhaps, of that "vain repitition" which "the heathen" are not alone in regarding as a claim to be heard, that "Mr. Warren had been appointed Professor over the heads of the existing Professorial Staff; that a disproportionately high salary had been bestowed on the newly-imported favorite of officialism; that the highest office in the University was reserved for him, that of President, should the eminent Canadian scholar who fills it be carried off by some ardent votary of co-education being induced to act the part of Charlotte Corday!" Such was the terrible array of rumours and hear-say evidence, which were every now and then set up and knocked down in the columns of the *Mail*, after the fashion of those redoubted warriors who demolish soldiers of straw constructed by themselves. But with the Session of the Local House came explanation and statement of fact. It turned out that Mr. Warren had *not* been made Professor of Classics or of anything else; that *no* salary had been offered him; and that all this appeal to nationalism and patriotic indignation against supposed insult offered to Canadian scholarship rested on no more solid evidence than did Mr. Pickwick's breach of contract with Mrs. Bardell. We regret the waste of energy and time, and the perversion to party purposes of journalistic powers so well fitted to promote those true interests of education, which, as we have all along maintained, should be considered quite independently of the heated passions of political strife.

HAIGHT *VERSUS* DICKSON.

When a school succeeds in winning high honors at our universities, or at the teachers' examinations, through the energy and ability of its masters and students, we are ready to give it praise without reservation. When, however, a man attempts to elevate himself by taking an unfair advantage over his fellow teachers; when he stoops to lure the brightest students from his more modest rivals, that he may through them gain credit for brilliancy which he does not possess, honest men must condemn his practices. We have tried to show in these columns that such a course is not only indecent and unprofessional, but that it is unfair to students, who are led away from home, to incur increased expense, in attending a school in many respects inferior to the one in their own locality. It seems, however, that the quality of the education given is not the only thing with reference to which students may be misled. Finding that the former attempts at trumpeting the praises of his school were failing to draw material sufficient to satisfy him, the Principal of the Hamilton Collegiate Institute issued circulars to promising students through the country, offering scholarships to those who took the highest standing at approaching examinations as students of the Hamilton Institute. It turns out that he was not authorized by his Board to do this, and those who won their scholarships were refused payment. Mr. George Dickson actually refused to pay the money solemnly promised by Mr. George Dickson. Mr. Milton Haight, one of those who earned scholarships, and was refused payment, entered a suit against Mr. Dickson to recover the amount, $75.00, as stated in the last number of the JOURNAL. The case was tried on February 28th, in Hamilton, before a jury, and a verdict was returned for Mr. Haight for the full amount of his claim, with costs. Want of space prevents our making any comment on these facts in this number.

When we published some letters a few months ago, sent by correspondents of the highest integrity, and referring to the remarkable course of the Hamilton Institute in issuing an advertizing sheet under the guise of a school journal, the conductor of the said journal had the hardihood to state over his own signature that these letters were not genuine. After reading the letter of Mr. Whittington in another column, charging the publisher of the Hamilton *School Magazine* with the most barefaced forgery of a testimonial, we are in a position to understand why he should make such an unfounded assertion concerning the letters which have appeared in this JOURNAL.

We are glad to learn that Inspectors and High School Masters throughout the Province are now fully alive to their own interests in this matter, and hope that they will be true to themselves and the young people of their districts, by preventing the introduction of any insidious influences, whose real aim is to mislead those intending to prosecute a higher course of study, and elevate one school at the expense of all others of a similar character.

SUCCESS OF THE CANADA SCHOOL JOURNAL.

We are under obligations to our many friends throughout the Dominion for the large subscription lists which we are constantly receiving. The CANADA SCHOOL JOURNAL is rapidly becoming what we always designed it should be, the recognized organ of all grades of the teaching profession in Canada. We are especially pleased that in Ontario, it is being adopted by the local associations all over the Province. Several counties have decided in its favor during the past month. Perhaps the most gratifying report came to us by telegram from Watford, as follows:

"East Lambton Teachers' Association passed resolution that every member be supplied with copy of CANADA SCHOOL JOURNAL and *Gage's School Examiner* for eighty-one."

One association issues a circular to all the teachers of its district, from which we make the following quotation:

"THE CANADA SCHOOL JOURNAL is the organ of the association.

No teacher can afford to be without at least one periodical devoted to the interests of the profession, and you should prevail on your trustees to take the CANADA SCHOOL JOURNAL. Under Sub-section 23 of the 102nd Section of the Public Schools Act, trustees are required 'to procure annually, for the benefit of their school section, some periodical devoted to education.'"

This Section of the School Act is too frequently overlooked.

In return for the kindness of our friends, we can only repeat our desire to make the CANADA SCHOOL JOURNAL a means of elevating the profession intellectually and socially, and we will always be pleased to receive suggestions as to its improvement.

"HAVE I A VOCATION TO BE A TEACHER"?

When young people choose a life-calling from mere caprice, or imitation, or any other reason but the only adequate one of conscious fitness and reasonable hope of remunerative success, the results are apt to be as unsatisfactory as those of marriages entered into hastily, without affection or means of support. In most cases, young people are wedded once for all to whatever calling they have chosen, nor is divorce, on the ground of incompatibility possible.

In the present generation, there seems to be a reaction against the hard manual work of the two or three generations which have made the country what it is. It is increasingly common for farmers' sons to seek a calling whose chief recommendation seems to be exemption from labor. In consequence of this, the market is flooded with clerks, doctors, clergymen, lawyers, and teachers. In the four former cases, the evil works its own remedy, the incompetent surpluses being disposed of by that beneficent law, "the non-survival of the unfittest." But in the case of teachers, there exists a class of people interested in promoting the survival of incompetent teachers, in order to cheapen and underrule the competent. But the position of "the cheap teacher" is not a pleasant one. It will cease to exist as soon as the good sense of the community awakes to the need of abolishing the condition of things which overcrowds the teaching profession with inferior members.

But with really good teachers, the profession is far from being overcrowded, and any young man or woman who has the true vocation for teaching, now, more than at any former time in the history of this country, may count on an assured future of usefulness and honour. Never before has public interest so turned to the subject of education. Both the pecuniary rewards and the social position are rising, and are sure to rise further still.

UPPER CANADA COLLEGE.

The Minister of Education has laid before the Ontario Legislature his special report on Upper Canada College, which certainly shows that the College has done good work in supplying the University of Toronto with a large number of matriculated students ever since 1840. But, as the report goes on to state, "since the great educational improvement in the work of "the High Schools, recently effected by the Entrance and Inter-"mediate Examinations, and half-yearly inspection, and the "increase in their financial resources, the college is surrounded "by numerous energetic and worthy competitors for scholastic "honors," that is to say, the College now no longer stands alone, but is met on its own ground by the High Schools and Collegiate Institutes of the Province. Under these circumstances we are not surprised that the Minister proposes certain changes in the management of the College, the most important of which are inspection by the Department, and extension of the Exhibition Regulations, so as to be more generally beneficial to pupils from all parts of the Province. Whether the instalment of reform in the management of Upper Canada College will finally satisfy public opinion in the Province is a question which our High School friends will probable press on the Department's serious consideration.

—In an excellent paper read at the "Woman's Literary Club," by Mrs. K. S. MacLean, of Kingston, the remark is made that in the States it almost always seems the first ambition of the teacher to make the scholar realize his future duties as the citizen of a great Republic. Ethical and social teaching should certainly form a part of the public school course, and on no subject could this be given with more certainty of practical benefit than that of Temperance. In England we are glad to see that efforts in this direction are not relaxed. At the last quarterly meeting of the National Union of Elementary Teachers at Norwich, Mr. J. H. Tench read an excellent paper on Temperance, and proposed a resolution in favor of total abstinence as a basis of temperance ethics in the schools, which was carried with but one dissentient.

—MR. NATHANIEL GORDON has been appointed Inspector of the newly-organized County of Dufferin. Mr. Gordon has been for nine years principal of the Picton Public Schools, and has had charge of the County Model School in that town since its establishment. He taught twenty-one years in Prince Edward County, rising gradually from the ranks to the best school in the county. He could have received no better training for the position of Inspector. He has always been an earnest and energetic teacher, who worked hard himself, and succeeded in inspiring in his pupils a love for independent work. His past success gives every reason to hope that he will do much good for the cause of education in Dufferin.

—It is a gratifying fact that, while a large number of members during the last session of Parliament spoke in favor of curtailing the powers of Public School Inspectors, only one weakly note of complaint has been sounded during the present session. Mr. Ross, of Huron, deserves the gratitude of the profession for the manly way in which he defended the Inspectors, as well as for the intelligent interest he takes in education generally. The educational somnambulist from East Grey should remember that progressive institutions are not to be discredited or overthrown by Rip Van Winkle's "solid vote."

—The death is announced of the venerable Provost of Trinity College, Dublin, the celebrated mathematician and mag-

netic observer, Dr. Lloyd. Dr. Lloyd succeeded the late Dr. MacDonnell as Provost. He was one of the oldest of the Senior Fellows of Trinity, having been a contemporary of Dr. Wall, and the celebrated and eccentric Dr. Barrett, both of whom are brought on the scene in the amusing *travestie* of Trinity College life, in Lever's "Charles O'Malley."

—The Napanee *Standard* has a sensible editorial on the Summer vacation question, which, it appears, from the Minister of Education's Report, but few schools have availed themselves of the permission to shorten. The *Beaver* is of opinion that "the slack season of Summer" is better suited for school work than the bad roads and busy season of Winter. But our contemporary should consider the serious objections to brain work during the heated term, as well as the absolute need of rest to the jaded nerves of the teacher. The proposal for shortening the Summer vacation does not seem popular.

—The French Government has published a concise code of regulations for the government of those schools which, in France, answer to the Public Schools here. All corporal punishment is unreservedly abolished, and its infliction will render any teacher liable to punishment by law. Also the right of the parent to be consulted as to whether his child shall be permitted to receive devotional teaching. Neither catechizing nor church services will, in future, be permitted to interfere with school hours.

—The Minnesota Normal School Board has unanimously adopted a resolution establishing a Kindergarten in the Winona Normal School. The object of this was not to secure the adoption of Kindergartens in connection with the Primary Schools, but as a means of training the teachers who receive their professional education in the Normal School in the Kindergarten methods. Surely this good example might well be followed by the Education Department of Ontario.

—In an article on the Kindergarten System, the London *Lancet* refers to the fact that the education of a child should begin from the moment it takes notice, and dwells on the need of competent nurses to direct the faculty of receiving impressions. But there is such a maxim as "*ne quid nimus*," and a child's power of receptivity, at least in the "nursing" period, will do very well without direction.

Cambridge Degrees for Women.—The memorial from non-resident members of the Senate of Cambridge University in favor of granting the B.A. degree to women, subject to such regulations as may be judged expedient, has, we understand, received a large number of signatures, among the more recent of which are those of the Earl of Derby, the Duke of Wellington, the Bishop of Bath and Wells, Lord Houghton, Sir Chas. Lubbock, the Dean of Manchester, &c.

—Mr. Fawcett's tract on "Thrift" would be a useful aid to any movement for introducing the savings' bank system into our public schools. It would not be fair to put the whole burden of directing school savings' banks on the already overburdened teacher without some small remuneration. But such remuneration the Government might well offer; it could hardly teach the future citizens a more valuable lesson.

—A society has been formed in Toronto for the purpose of studying social science, as well as general literature and culture, and of bringing the force of united effort to bear on municipal governments and public opinion. It is their intention to bring forward the question of the eligibility of women as members of Public School Boards.

—The Educational Institute of Scotland has held a very successful annual meeting at Stirling, in which the general feeling seemed to be in favor of separating religious from secular teaching. It seems strange to find the land of Knox more advanced in liberal views on this matter than England. But the hold which the Church Establishment has obtained on the English schools may, perhaps, account for the difference.

—Mr. Forster's Act (England) requires no qualifications in candidates for election to a School Board. This is a gross defect. The sweetness of Auburn's loveliest village will be marred if its School Teacher be subjected to the absolute rule of a School Board of Squire Westerns.

—A pupil teacher in Hull (England), while engaged in striking a boy, let fall a pen from behind his ear into the left eye of another boy sitting by, which completely destroyed his sight. The law court gave damages of £100. The practice of carrying pens behind the ear began when quill pens were used. The steel pens now used are dangerous as arrows.

—The English Secretary of War urges the revival of military drill in schools. The London *Standard* points out that in Switzerland, where every man is obliged to serve as a soldier, the term of service is very short, the drill learned at school rendering a lengthened period unnecessary.

—Rev. Principal McVicar, LL.D., of the Montreal Presbyterian College, has just received the diploma of the Orthenee Oriental, of Paris, having been unanimously elected a member of that Society.

—Attending the debate on Upper Canada College on Wednesday, February 23rd, in the Local House, we were pleased to see Mr. Metcalf, member for Kingston, whom we remember for many years as a successful teacher in that city.

Contributions and Correspondence.

THE BEST METHOD OF EXAMINING AND CERTIFICATING TEACHERS.

BY HENRY E. SHEPHERD.

The character of an examination must be determined with especial reference to the object that it purposes to accomplish. An examination strictly technical—that is, one designed to test the fitness of the candidate to perform a professional work, as that of engineer or surgeon in the naval or military service—would be essentially different from one intended only to test the intellectual ability of an examinee, without regard to a specific calling or a peculiar vocation. The examination of teachers falls properly under the technical or professional head, having for its prime object the eliciting of such information as will enable the examiners to form an intelligent judgment respecting the probable fitness of the applicants for the high and holy office of teaching. It is evident that the teachers' examinations, as ordinarily conducted in America, are imperfect and unsatisfactory modes of attaining this result. Most of them are conducted in writing; and no written examination, however skilfully constructed, is an adequate test of objective knowledge. Such an examination furnishes an excellent means of testing the general capacity of those subjected to it, but from the very form it assumes, it cannot be accepted as a satisfactory means of ascertaining professional competency or skill. The most thorough scholars generally prove to be the best teachers, if their scholarship is combined with the "faculty divine" of imparting in a lucid style, adapted to the mental status of their pupils. As scholarship or general ability only can be tested by written examinations, it is clear that some other means must be devised to ascertain professional aptitude or pedagogic skill. As the possession of knowledge is the necessary condition of ability to communicate it, the written examination, supplemented by the oral, must first be resorted to, in order to determine the scholarly acquirements of the candidates, as well as their general mental ability. I shall first, therefore, endeavour to describe what seems to me the ideal of such an examination, reserving for the latter part of my essay the consideration of "the best method of certificating teachers." In this connection I desire to enter my protest against a singular delusion that seems to have possessed the minds of some educational oracles in these latter days. I allude to the impression rapidly gaining ground in some quarters that pure learning, and accurate attainments, are not an essential part of a teacher's equipment, and can be easily dispensed with if he has the gift of self-restraint, and the consequent ability to restrain others. The logical result of this style of argument would be that a thoroughly trained corporal or drill-sergeant might command and conduct to victory the army of Napoleon or Von Moltke. To all such vicious doctrines, "I say fie." Next to the element of pure moral character, "the white flower of a blameless life," accurate scholarship is the most important qualification to be sought in a teacher. However eminent in the faculties of discipline and execution, no genuine inspiration can be communicated to pupils by one who has not drunk deep at the purest fountains of learning, and who does not possess a living sympathy with true cholarship, as well as an experimental appreciation of its blessings. As to the mode of examination: First and especially, I should strive throughout the entire range of the examination, both oral and written, to ascertain by the most rigorous tests the *language faculty* of the candidates. A vast amount is comprehended in this simple sentence; for in the language lies the power of expression, and in the power of expression consists nearly all the intellectual part of teaching. The failure to develop and cultivate this faculty is a characteristic defect of many of our high schools and colleges. In the degree that this defect is remedied will the character of the teaching in American schools be improved and elevated. I should make it an inexorable condition that *no one who fails to read, write, and speak English with purity and correctness should receive a teacher's certificate.* Even subjects that are not literary or æsthetic can be used to test the development of this faculty of expression.

The subjects that bear especially upon this part of the examination are grammar, composition, reading and English literature. By a careful selection of these topics, much can be elicited respecting the ability of the candidates to wield the mother tongue efficiently. In a language so versatile and so logical as English, there can be no lack of means to test the powers of examinees in the use of words, and ability to combine them into sentences. I would allot a conspicuous place in our examinations to the detection of errors of expression, and deviations from pure usage. These I would not restrict to palpable and ordinary blunders, to colloquialisms and provincialisms, such as a school-boy might discover: the sentences selected at a teacher's examination should consist largely of passages illustrating logical and rhetorical errors, in which there is no departure from mere formal accuracy, but an inconsistency and incongruity of thought that require a discriminating acquaintance with the peculiarities of English, to discover and restore them to correctness. It is surprising to find how rich in errors of this kind many of our reputable English authors are; and it is perhaps more surprising to discover that not one in ten ordinary candidates will detect the error, or even suspect its nature, but will resort to every variety of tortured explanations, totally misconceiving the point in view. At a recent teachers' examination, I gave the following sentence, taken from one of Sir Henry Maine's Lectures: "It is well known that the finest fancies of our best writers are produced as diamonds are said to be produced, by the pressure of an enormous mass of thought." Not one in twenty perceived the irreconcilable inconsistency of the two parts of the proposition. Looking at its purely mechanical correctness, they proposed a variety of emendations, such as only the most perverse ingenuity could have devised or suggested. The especial value of this kind of sentence consists in the fact that it supplies an admirable means of determining the candidate's ability to penetrate beneath the mere surface of speech, and detect a logical or rhetorical transgression, which may be disguised under an external correctness. In selecting examinations in parsing, I should insist that they be taken from the purest models of English. Milton's "Lycidas," Tennyson's "Idyls of the King," are typical examples. No selection that does not require a critical scrutiny before the relations of its parts reveal themselves, should be assigned at a teachers' examination. The parsing should be rendered, as far as possible, a test of the candidate's ability to read and interpret English. It should never degenerate into a test of merely mechanical skill in resolving sentences into infinitesimal parts,—a sort of microscopic anatomy which renders grammar what Rask termed it, "the grave of language." I am entirely averse from the modern tendency to complicated analysis of speech. It is the function of grammar to teach the accredited usages of language,—to show *how* men speak, not *why* they speak as they do. This problem falls within the scope of linguistic science, to which its solution may be safely confided. I am decidedly of the opinion that at least a moderate acquaint-

ance with the history of English, its origin, evolution, structural characteristics, in short, its historical grammar, should be required of candidates. The advances in this field have been so rapid in the last ten years, and the materials are so accessible to all classes, that he who remains in ignorance has nothing to censure save his own indolence, or his own indifference. In a teacher's (written) examination, I should assign a subordinate place to history and English literature. As this may seem to be out of harmony with my previous statement in regard to the importance of language training, it demands a word of explanation. *Written* examinations in history and literature can never fairly represent the actual acquirements of a candidate in these studies. They represent the subject-matter of a compend or epitome, a hand-book or a manual whose contents are so compressed as to render coherency of plan or clearness of relation impossible. It is on the purely literary side that written examinations fail as an adequate test of knowledge; for knowledge not assimilated, not yielding "a faculty" or "an art," as Latham calls it, is entitled to no consideration in an examination designed to determine intellectual ability. Literary attainments can be most effectually ascertained by the test of oral examination,—by conversation, manner, and that unmistakable though undefinable charm which they rarely fail to impart. I should insist upon this general principle as a guiding one in all written examinations: that decided excellence in one or two studies is a better criterion of ability than moderate proficiency in five or six. The tendency to multiplication of subjects—the evil genius of modern education, at least in its higher forms—should be avoided by judicious concentration upon the mathematical and linguistic departments. Exact sciences furnish the most satisfactory means of ascertaining intellectual ability, and should be accorded the pre-eminence in written examinations. English grammar (including parsing), arithmetic, algebra, geography, elementary philosophy, should constitute the staple of every examination for teachers in grammar and primary schools. A greater diversity will not only prevent a firm grasp of each subject, but will tend to laxity, and dissipation of mental energy. In the mathematical examination, every tendency to the crotchety and the merely ingenious should be carefully avoided. Nowhere is a disposition to indulge personal fancies and predilections so fatal as in an examiner. His duty demands an inflexible repression of *himself*, both in the assigning of questions and the estimating of answers. "Not to think more highly of himself than he ought to think" should constitute his animating principle.

Mathematical questions should be selected with especial reference to the *testing* of *principles*, and all mathematical puzzles should be rigidly excluded from an examination paper. The tendency of such questions is to degrade mathematics from a science into an art, and from an art into a species of jugglery. Every written examination should be supplemented by an oral examination. This should be conducted by the regular examiner, assisted by wise and judicious teachers. The special purpose of such an examination should be to test those qualities of mind and heart which lie beyond the scope of the written examination. Its principal design is to see if the candidates can speak and pronounce English correctly, can read a classic English author so as to elicit his sense and meaning, to find out their pedagogical attainments, to note their demeanor; in short, to see if they possess the characteristics which distinguish the true lady or the true gentleman. This I consider one of the most essential features of a teacher's examination, and I should insist that it be made an indispensable element in ascertaining the qualifications of all applicants. The question of grading and estimating the papers of candidates comes strictly, I presume, within the scope of this essay. I am of the opinion that candidates should receive a special average in each study, at least two-thirds being required; and that in estimating the value of answers, intelligence, discrimination, and perception should receive more credit than mere technical accuracy, or inflexible adherence to prescribed formulas. Controverted points, I think, should not be introduced into an examination; but wherever a diversity of views exists, no candidate should be marked "failed" simply because he happens to antagonize the cherished crotchet or the favorite hobby of an examiner. The most generous tolerance should be accorded to honest differences of opinion, especially if these differences are supported by intelligent and logical reasons. To English composition as an examination subject, I do not attach the importance that some have assigned to it. A composition written under the physical and mental pressure of an examination is apt to be a reproduction of some previous effort, and consequently an exercise of memory more than of facility in writing English. Still, it should not be dispensed with on that account. I suggest that an interval of several days elapse between the written and the oral examination, in order that the candidates may not be depressed by physical prostration or nervous excitement. Every precaution should be taken to render the physical conditions favorable; the time allotted should be ample, the room cheerful and well lighted, the examiners affable and courteous. When a sufficient period has elapsed after the written examination to allow the candidates time to recover their vigor of mind and body, those that have passed the ordeal of written examinations, should be requested to meet the examiners in order to undergo the second or oral test.

This latter test should take a wide and varied range, embracing general topics, literary, scientific, and æsthetic, in order to ascertain the variety as well as the extent of the candidate's acquirements, and special and pedagogical subjects in order to determine their professional attainments and capabilities. A number of excellent works might be named, by whose diligent study a novice might learn all that it is possible to know respecting the theory of his profession. Among these I mention with especial commendation, Fearon's School Inspection, Latham on the Action of Examinations, Stanley's Life of Dr. Arnold, Calderwood on Teaching, Quick's Educational Reformers, Bain's Science and Art of Education, Wiese's German Letters on English Education, Bishop Dupanloup's Works on Education, Matthew Arnold's Reports upon the French and German Systems of Education, Payne's School Supervision. I deem it to be the sacred duty of every teacher to make himself thoroughly acquainted with the literature of his profession, and I should be disposed to withhold a certificate from every applicant who shows an ignorance of such literature, or an indifference to its merits. The oral examination should comprehend such general topics as I have named, and, in addition, special professional subjects such as modes of instruction, the relative educational values of different studies, school economy, gradation, classification, government and discipline; the answers of the candidates should be scrutinized with the utmost care, and the language in which they are expressed noted with the utmost attention. Every candidate should be required to read aloud a selection from a classic English author. I suggest Shakespeare, Milton, Addison, Burke, Macaulay, and Tennyson as admirably adapted to this purpose. Pronunciation, articulation, enunciation, should be critically observed. The ability to read Shakespeare and Tennyson so as to bring out the exuberant richness of meaning incarnated in their jewelled words is an accomplishment of no mean order, and should receive a high credit in estimating the value of an oral examination. Such a test as this, judiciously applied, will furnish more satisfactory evidence of literary culture and appreciation than a dozen examinations in manuals or epitomes. In an oral examination upon arithmetic, I should spare no pains to see that the applicants understood principles as well as mechanical laws, basing my

questions largely upon common and decimal fractions, in which much of the science of arithmetic consists. I should propose such questions as, Why is the divisor inverted in dividing a fraction by a fraction? What are the laws that govern the reading and pointing off of decimals? I should endeavor to see that the examinees comprehend that exquisite continuity in which so much of the charm as well as the power of mathematical science consists. Next, the candidates should be subjected to a rigorous cross-examination upon the laws of English syntax, in order to see if they understand the peculiarly logical structure of our speech, the principles that govern its arrangement, such as the proper disposition of the relative with regard to its antecedent, the locating of adverbs, and the handling of the participial clauses. While I should not be justified in insisting upon it as a positive requisition, I would consider it an immense advantage if the candidates have an accurate knowledge of the Latin grammar and vocabulary. All comparative study of language, as well as any adequate introduction to most of the cultivated modern idioms, must be grounded in a thorough acquaintance with the accidence and the syntax of the Latin tongue.

The result, as ascertained by the combination of the oral and the written examination, should then be determined, and the successful candidates notified by an official publication of their names. A certificate should then be awarded to each candidate, rendering him eligible to a situation in an elementary school for a term not exceeding two years. Let us suppose that our novice has been fortunate enough to secure the good offices of a local committee, and has received a temporary appointment in a grammar or primary school. He is now in a position to test by actual experiment the fine-spun theories and brilliant conceptions that he evolved during his examination, and whose practical application, he perhaps imagined, are destined to effect a revolution in the pedagogic art. I am convinced, as the result of considerable observation and experience, that no teacher should receive a permanent appointment until after having served successfully for at least one year.

The German proof year, or year of probation, should be introduced into our public-school system, and made an inexorable requirement, That which demands no preliminary trial for its pursuit can scarcely be designated as a profession. During the novice's year of probation, the inspector or superintendent should bestow especial care upon his class, studying critically but not obtrusively his development, noticing his faculty of administration, and scrutinizing rigidly his language. He should enter his impression of the candidate's progress in his record for the day, detailing minutely any salient or distinctive points, favorable or unfavorable, that may have presented themselves to his mind. Upon each succeeding visit he should recall the points in the character of the candidate that especially impressed him before; and if his previous impressions were unfavorable, he should be especially careful to observe if any change for the better has taken place. The visits of the inspector should be devoid of magisterial or pompous bearing. His manner should be affable and courteous, placing the teacher at his ease and removing all suspicions of unfair criticism or official surveillance. The teacher, free from embarrassment or restraint, will appear in his genuine character, and will teach more successfully and efficiently for that very reason. Among the points to be carefully noted in a teacher is his habitual language in the presence of his class. The inspector should study this point with the most scrupulous vigilance, and should be especially guided in making up his final judgment upon the case by the accuracy and perspicuity of expression displayed in the ordinary language of the probationer, or by the absence of these faculties in his mental constitution. A simple and efficient means of gauging the teaching capacity of a beginner is to study closely the manner in which he conducts a reading lesson. I should be strongly inclined to pronounce favorably upon the case of a young teacher who could conduct an ordinary reading lesson with grace and skill, eliciting the interest of the class by a commonplace narrative such as may be found in any of the readers in general use. It should be carefully noticed if the teacher illustrates the significance of words by their relation to the context, or whether he insists on bad definitions after the approved routine method. If the class are sympathetic and responsive; if the teacher illustrates the text by apt allusoins, pointed biographical or historical references; if he inspires his class with a love of pure English and a genuine fondness for good reading, he may be safely pronounced a professional success, and his permanent appointment confirmed without hesitation or reluctance. The greatest deference should be accorded to the judgment of judicious superintendents, in making up a final estimate of a probationer's merits and claims. The conception of responsibility carries with it the idea of authority as its natural correlate; and if superintendents or inspectors are to be held even to a theoretical responsibility for the teaching efficiency of the schools committed to their charge, they should be vested with ample executive and discretionary powers, and not be restricted to merely advisory functions.

Among other points to be considered in estimating the fitness of young teachers for their work is the element of progress in the literature of their profession. It is deplorable to discover how many teachers regard the study of professional literature as an ungrateful imposition, rather than a pleasurable task. The superintendent, in studying the characteristics of young teachers, should observe carefully what attention they bestow upon this subject, and whether they endeavor to keep themselves abreast with the great movements of educational thought in the most advanced systems of the world. It is of course evident that in making up a conclusive judgment upon the adaptation and capacity of probationers, many points must be determined by a regard to local surroundings and conditions. No inflexible laws can be laid down; much must be left to discretion, to good judgment and integrity. Still there are certain general principles which, though subject to local modifications, may be accepted as fair criteria under nearly all circumstances and conditions. The sublime faculty of self-restraint, the consequent power to restrain others, purity of expression, constant expansion in knowledge, devotion to professional literature, consecration of heart and will to the holy calling, culture of intellect in the highest and broadest acceptation,—these are the characteristics to be sought and studied in a teacher. If the probationer serves efficiently and capably for one scholastic year, receiving a favorable report from the superintendent, I should suggest that he be subjected to another oral examination, more comprehensive in its scope and more exacting in its requirements than the first. This second examination should enter most thoroughly into modes of discipline and instruction; in short, the whole subject of school economy. The examining committee, having the benefit of the superintendent's record, which in all cases should be carefully consulted, will be in a favorable situation to form a final judgment, and to recommend that the probationer's appointment be confirmed, if he sustains the second test and the superintendent's report is favorable.

The appointment should be for life, or during faithful service and good behaviour. A life certificate should be issued to a teacher who sustains with credit the ordeal of a year's probation under the circumstances I have described, passes with honor the second oral test, and receives a commendatory report from the superintendent or supervisor, as well as from the principal of the school in which he has served his novitiate. A year of constant, continuous service in the class-room is sufficient, under ordinary conditions, to enable

an intelligent judgment and estimate to be formed regarding the probable future of the candidate. While I should insist in all cases upon the most rigorous preliminary tests, I am strongly of the opinion that if these are successfully endured, if the beginner displays a steady development in mental culture as well as professional skill, his tenure of office should be made permanent. Our present system of annual elections is characterized by the most unmitigated abuses, and by the arbitrary exercise of irresponsible power. It rarely removes the incapable and inefficient teachers,—their removal being the only possible plea that can be urged in its palliation—while it subjects the worthy and the meritorious to an annual inquisition, a gratuitous humiliation, subversive alike of professional independence and personal self-respect. Our novice, having complied with all the requirements that caution, experience, and scholarship can impose, has now the prospect of attaining an honorable eminence in his chosen field. I am confident that the adoption and the faithful execution of the plan I have sketched for the examining and certificating of teachers, would tend essentially to elevate the standard of the teaching profession, as well as to contribute to exalt its dignity and to increase its emoluments.—*Education, published by Thos. W. Bicknell, 16 Hawley Street, Boston.*

ELEMENTS OF A TEACHER FROM A MORAL ASPECT.

BY G. H. BURNETT, KESWICK RIDGE, N.B.

The longer I teach, the more am I convinced of the nobleness, and greatness and responsibility of teaching. True teaching is despised by the world. The noblest men that ever lived have been teachers; but they have been opposed by the world. And why is this the case? Because teachers have risen up to reform the evil tendencies of humanity,—for all true teachers are reformers,—they must take opposite sides with ignorance and vice, and are consequently the enemies of such. The noblest soul that ever lived was a teacher; and surely we ought to be cautious when we take the responsibility upon ourselves of guiding immortal souls. The chief error in the system of education of the present is putting too much strain on the intellectual side and forgetting the moral and physical aspects. By neglecting the physical we sow the seeds for early death. This is a startling fact, but true nevertheless, that many of our schools, at the present day, are the hotbeds of disease. Moral education is greatly neglected also. Joseph Cook says "the chief error in the culture of our times is fragmentariness and want of harmony with the ascent of life." "A fragmentary philosophy lies at the basis of materialism; and leads to atheism, pessimism, and despair."

The first element of a teacher is a sympathetic, loving nature; a soul which loves his fellow-men; which loves children; a child's heart and a man's head. He should see in children something more than little troublesome creatures always asking questions. He sees a germ in childhood more plastic than the potter's clay, which, in the hands of a true teacher, may be perfected and developed, and one day become a jewel, as a beacon on the shore, showing forth the beauty and loveliness of a true life. True lives throw a halo of glory round their path, and guide those who are in darkness into life and peace. Is it not a noble work committed to your hands, O teachers! that of guiding and making true lives? A teacher can never accomplish much if he is not pure, and true and noble himself. Children unconsciously imitate their teacher. Morality can only effectually be taught to children by one who is truly moral. Such a teacher carries, often unknown to himself, an atmosphere which cannot but benefit those with who he comes in contact.

Another element is magnetism. Have you ever seen the magnetic teacher? I have, and thanks to Providence was once under his influence. He rises from his seat as the scholars take their places, and there beams from that radiant face an influence as potent, yet as silent as the rays of the sunlight. It melts away all difficulties; the scholars lose their personality; they know nothing, are unconscious of everything save those golden truths which fall from those lips; they take possession of those little hearts, they find a dwelling there, and years afterwards those sweet words come back again, and that form of that dear old teacher speaks as from the dust once more. The teacher magnetizes his pupils, and how? First, by natural endowments; second, by experience; third, by much study and hard labour. He must teach, and think while teaching. He must study, and observe men and things. He must have energy, sympathy, earnestness, a large heart, an educated mind, and a great store of information.

UNBLUSHING FORGERY.

To the Publishers Canada School Journal.

SIR,—In the January number of the Hamilton *School Magazine* there appears the following testimonial: "I make daily use of the Hamilton *School Magazine* in my classes. I could not afford to be without it."

"ROBERT WHITTINGTON, M.A,
"Coll. Inst., London."

The above testimonial is a forgery, pure and simple. And were it not, it would still be false in every particular. I could not truthfully write it, for I did not make daily use of the Hamilton *School Magazine* in my classes, and never said so. I can afford to be without, and will. At the Middlesex Teachers' Association, in private conversation with the manager of the *Magazine* in question, I, when requested, expressed my approval of its contents. No testimonial, however, was thought of by me or asked by him.

If the Hamilton *School Magazine* chooses to reward its patrons by foisting false testimonials over their own forged signatures, I for one most decidedly object.

Unwilling to make my debut before the readers of your excellent JOURNAL, especially under such disagreeable circumstances, I had concluded to let the matter drop. Mature consideration compels me to assert myself, and expose the unscrupulous conduct of the promoters of the Hamilton *School Magazine.*

I have the honor to be, Mr. Editor,

Yours sincerely,
ROBERT WHITTINGTON, B.A., not M.A.

Practical Department.

HOW CHILDREN SHOULD BE TAUGHT TO READ.

MR. EDITOR,—Believing that no subject is so badly taught in the schools of Ontario as Reading, I propose, with your permission, to conduct a discussion in your columns on the methods of teaching it, with a view of learning which of them is the simplest and most philosophical. During the past two years I have had the honor of advocating at the Provincial Teachers' Convention, and at several County Conventions, *a self-consistent phonic system*; that is, a system which gives the child the *sounds* and *powers* of the letters at once, and at first gives it but ONE SOUND FOR EACH. During the past year, Professor Meiklejohn, of the University of St. Andrew's, has published a little work advocating precisely the same system. This *One Sound System* I propose to expound and defend.

With reference to other systems of teaching reading, my position will be friendly to the various phonetic methods; respectful to a sentence method as an *introduction* to the process of learning to read; indifferent to the alphabetic method (if there can be such a thing), and decidedly antagonistic to the word method as understood and taught in Ontario.

I hope that every statement I make may be fairly criticized, and if necessary corrected. I desire to reach the truth, and I am quite willing to be hurt a little while climbing.

JAMES L. HUGHES, P. S. Inspector.

HOW TO TEACH READING.

IV.

In the last number of the JOURNAL I urged that the teacher should aim at *introducing* his pupils to the first lesson in reading, to interest them in the subject by reading an interesting story to awaken the desire on the part of the children to learn to read such stories for themselves. This will give them a definite understanding from the start of the object they have in view, and progress in any work without a clear idea of the object aimed at is slow and unsatisfactory. In this connection the following extract was accidentally omitted: "During my sixth year," says Hugh Miller, in his autobiography, "I spelt my way under the dame, through the Shorter Catechism, the Proverbs, and the New Testament, and then entered upon the highest form as a member of her Bible class; but all the while the progress of acquiring learning had been a dark one, which I slowly mastered, in humble confidence in the awful wisdom of the schoolmistress, not knowing whither it tended; when all at once my mind awoke to the meaning of that most delightful of all narratives—the story of Joseph. Was there ever such a discovery made before? I actually found out for myself that the art of reading is the art of finding stories in books; and from that time, reading became one of the most delightful of my amusements."

SECOND LESSON.

During the interval between the first and second lesson the pupils have printed the two letters whose sounds were given to them in the first lesson. Some teachers recommend that they should write the letters in script from the first. So far as the teaching of writing is concerned there may be no objection to this, but with a view to teaching reading, it is better for the first month not to confuse the minds of the children with the two letter forms, but to allow them to copy only the printed forms. In method the second lesson should resemble the first. The letters should be printed and sounded separately at first, and then brought gradually nearer until consolidated into one word. In doing this the single rule to be followed is: *make the consonant sounds shorter at every step, so that at last a consonant will only indicate an instantaneous contact of the vocal organs.* This rule may be illustrated by reviewing the first lesson as follows, making *p* shorter at each step:

1. P A
2. p A
3. *p* A
4. pA

Having thoroughly reviewed the first lesson, the teacher should print on the board the letter

M

The vocal formation for *m* is similar to that required for *p*, but the air is *vocalized* and allowed to pass through the nose. The pupils should be instructed to shut their lips tightly and make a sound somewhat like a prolonged short *e*. The sound should be taught only by imitation, of course. The principal fault to be avoided is *beginning the sound before the lips are closed.* No sound of any kind must be allowed until they are tightly shut.

The teacher as he prints a letter should call attention to its shape, and should in all cases speak of a letter as he points to it by using its *name.* He should, for instance, as he points to the letters ask, "What does *pee* say? What does ā say? What does *em* say? etc. The pupils should not be asked to repeat the *names.* They will learn them by using them naturally as circumstances require. Names should never be taught merely by repetition.

Having given the sound of *m*, after it has been repeated several times in a correct and definite manner, the teacher proceeds as before to guide the pupils in the discovery of the sounds of words as follows:—

m a
m a
m——a
ma

(See instructions for uniting the sounds given in last lesson.)

In a similar manner the words

am,
mamma,
map,

may be taught with the three letters taught. These with pa, and papa, give six words that the child can name at the end of the second lesson. It must be remembered, too, that he does not name them from memory merely, but that he has acquired the power of sounding the letters in them wherever he meets them. As additional letters are taught, the possible combinations will increase in number with great rapidity.

When the words are discovered by the pupils they should be applied at once. When they have sounded *papa* they should be asked to say something about their papas. There will be no difficulty in getting "Papa is good," "Papa bought me a doll." "I love papa," &c. As each sentence is given it should be repeated by the whole class, and the teacher should point to the word "papa," when it is reached in the sentence. In a similar manner sentences may be obtained in all cases from the pupils, containing *am, map,* &c. These sentences should be repeated by all the pupils, and in each case the *known* words should be read. *Papa* and *mamma* may easily be introduced into the same sentence, even at this stage.

This exercise is a most important one. It serves as a language lesson, and accustoms the pupils to read the words in their logical connection in sentences.

UNSATISFACTORY EXAMINATIONS IN GREAT BRITAIN.

PHYSIOLOGICAL TEACHING IN LONDON, ENGLAND, BOARD SCHOOLS.

A report on the examination of girls in Board Schools for the prizes offered by the National Health Society was recently presented to the London School Board. The examination was attended by 215 girls from eleven schools at four centres, viz:—Medburn Street, Saffron Hill, Ben Jonson School, and Westmoreland Street. It is suggested as the reason why, out of 234 girls' schools, only eleven sent competitors, that physiology is taught as a specific subject in so very few girls' schools. And, even in the representatives from these schools, Mr. M'Williams, who held the examinations, noticed an abundance of faults. Many of the children appear to have been utterly unable to understand the terms of the questions. "Mention any occupation which you consider to be injurious to health, giving reasons for your answer." This question, Mr. M'Williams says, especially appears to have puzzled them. One girl's complete answer to this question is: "When you have a illness it makes your health bad, as well as having a disease." Another says:

"Occupations which are injurious to health are carbolic acid gas, which is impure blood." Another complete answer is: "We ought to go in the country for a few weeks, to take plenty of fresh air to make us healthy and strong every year." Another complete answer is: "Why the heart, lungs, blood, which is very dangerous." The word "function" was also a great puzzle. Very many answered that the skin discharges a function called perspiration. One girl says:—"The function of the heart is between the lungs." Another says:—"What is the function of the heart? Thorax." Another girl, in answer to the sixth question, says:—"The process of digestion is: We should never eat fat, because the food does not digest." Another class of errors is that of exaggerated statements, one girl answering:—"A stonemason's work is injurious, because when he is chipping he breathes in all the little chips, and then they are taken into the lungs." Another says:—"A bootmaker's trade is very injurious, because the bootmakers always press the boots against the thorax, and, therefore, it presses the thorax in and it touches the heart, and if they do not die they are cripples for life." Several girls insist that every carpenter or mason should wear a pad over the mouth; and one girl says that if a sawyer does not wear spectacles he will be sure to lose his eyesight. Finally, one girl declares that "all mechanical work is injurious to health." Another child says that "in impure air there is not any oxygen, it is all carbonic acid gas." Another says that if we do not wash ourselves "in one or two days all the perspiration will turn into sores." One girl states that "when food is swallowed it passes through the windpipe and stops at the right side; some of it goes to make blood, and what is not wanted passes into the alimentary canal." Another girl from the same school says:—"Venous blood is of a dark black color, and when it reaches the heart it is made by the heart a bright red color." Several girls from the same school repeat this last error. Another girl says:—"The chyle flows up the middle of the backbone, and reaches the heart, where it is met by the oxygen, and is purified." Another says:—"The work of the heart is to repair the different organs in about half a minute." Another says:—"We have an upper and a lower skin: the lower skin moves at its will, and the upper skin moves when we do." In many of the papers errors of spelling are very numerous. One child says:—"The heart is a *comical* shaped bag." Another says:—"The upper skin is called *eppederby*, and the lower skin is called *derby*." Another says the organs of digestion are "stomach, *utensils*, liver, spleen." Another speaks of the "*elementary canal*." Another says:—"Digestion is reducing our food into a *plump*." Another says that in the heart "there is a fleshy *petition*, and it is divided into four parts, called the left *artilary*, right *artilary*," &c. Of the simple word "*chew*," the inspector noted three distinct variations. One girl says:—"First we put the food into our mouth, and then it is *shewed*; some people say our food is *shewed* 27 times." Another says:—"The process of indigestion is that when we do not *schew* our food enough it gives us indigestion." "The loss of teeth is a serious matter, as we cannot *schew* our food enough." Another says:—"First before we can swallow any food it *as* to be *jewed*, and *their* is a substance which helps to *jew* it called saliva, and in that saliva *their* is a substance which is called Ptyalin." The errors of which those mentioned above are samples are confined, for the most part, to the papers of Standard IV., and in a less degree to those of Standard V. On the other hand, Mr. M'William, says the papers of Standard VI. and ex-Standard VI. girls are many of them very well written indeed.

These papers show an easy command of simple language, a correct use of technical terms, and they also show that the girls have been led to reflect on the common phenomena of life. One of the first six girls mentioned in the prize list, though she is not the first, in answer to the second question, after giving a clear and detailed description of the structure of the skin, says:—"The functions of the skin are: (1) It regulates the heat of the body; (2) it purifies the blood; (3) it protects from air, dirt, and injury, and binds together the superficial organs of the body; (4) it is an organ of excretion and absorption. Its healthy action may be disturbed (1) in the case of fevers when the perspiration is dried up; (2) by not keeping the skin clean when the pores are stopped up with dirt." In describing the structure of muscle, the same girl says:—"The separate fibres are streaked in two ways, lengthwise and crosswise. When separated from each other they often split up into 'fibrillæ,' or little fibres. The other fibres separate (according to the cross streaks) into discs. When a muscle is being contracted, these cross discs of the individual fibre become more closely packed together, and the fibre becomes thicker as it is shortened—similar to what taxes place in the body of a worm when it is drawing itself up after having put forth its head. There are about 400 muscles in the human body, generally arranged in pairs. Each pair consists of two antagonist muscles, which are in opposition to each other, the one resting while the other is working, the one bending, another straightening a limb." In conclusion, Mr. M'Williams recommends that if girls are allowed to sit for this examination next year, an elementary paper should be prepared for them, drawn up in the very simplest language, and that a portion of the prizes should also be set apart for them.

MR. HALL'S REPORT OF THE SCOTCH SCHOOLS.

A large proportion of his schools take up one, two, or even more subjects with anything but success, the inspector regrets to say, except in a few of the best. "Many of the written papers," he adds, "given in by the scholars are full of absurdity; and but for the fact that they speak of valuable time wasted, of energy misdirected, and of essential matters neglected for the sake of doubtful credit and a trifling gain, would be amusing enough." In his opinion, "this so-called higher work, as at present conducted, is, in nine cases out often, of no benefit whatever to the schools attempting it; but, on the contrary, an injury." In Mr. Stewart's district, the north-east of Scotland, the students of specific subjects have enormously increased during the past year, though the percentage of passes has diminished. The easiest subjects appear to be worst taught. Mr. Stewart appears to be of Mr. Arnold's opinion, that it would be desirable to substitute some elementary knowledge of the objects of nature for the more "pretentious 'ologies." "Children," he says, "who are quite conversant with ethnoid bones and monocotyledonous plants, could not distinguish the following trees:—*ash*, *elm*, *oak*, *beech* and *fir*, nor tell the difference between and recognize a *linnet* and a *wren*, or name a dozen of the commonest flowers."

OBJECTIVE TEACHING IN PRIMARY SCHOOLS.

Persons often ask the question: What is objective teaching? how does it differ from ordinary instruction? what subjects can be taught objectively? and what are its peculiar advantages? We will try to answer some of these questions as well as we can.

Objective teaching consists in presenting subjects so that the child can comprehend the ideas to be gained by means of his senses or by an appeal to his past experience and an association of known ideas with new ones. All subjects can be taught more or less objectively. Some are particularly adapted to this method of teaching; in fact, comparatively little can be known of them unless taught in this way—among these are primary zoology, botany, geography and physiology; while others, as grammar, reading, spelling and writing, seem at first to be abstract, yet these should be taught in a similar way, using words principally as objects of study.

The advantages of this method in teaching all branches are, that the child's mind is cultivated properly; his faculties are developed

in the order of nature; there is no distortion or undue development of one faculty at the expense of another. Children become exceedingly interested in subjects taught in this way, because they have something to do to employ their hands and eyes as well as their brain; hence they will learn more readily and comprehend better than if the subject were presented abstractly. If the proper method is used, the teacher aids the child to discover the more important facts in connection with the subject, and encourages him to express his thoughts in words, thus cultivating correct forms of expression. This result is of the greatest importance, for the incorrect use of language arises as much from indistinct or half-formed impressions as from hearing it used incorrectly by others. Inasmuch as one of the chief aims of primary teaching is to lay the foundation for work in the higher branches, this course of training is eminently successful; as by it the child is taught to think independently for himself, to associate ideas, to observe, and to express his thoughts in his own language.

Teachers often observe the effect of objective teaching, and not having had experience or preparation for the work, attempt to give instruction, and after repeated failures become discouraged, abandon the system and consider it unsuccessful; while they themselves are at fault in undertaking without special training the most systematic and delicate manner of imparting knowledge, and the one that especially requires peculiar preparation and thought in order to be successful.

We will now speak particularly of some of the requisites for objective teaching. These are (1) a thorough general knowledge of the common school branches, and also the elements of the sciences; (2) a knowledge of the laws of mental growth, so that the subject-matter may be presented in a proper way to develop the faculties of the child in a natural and systematic order; (3) careful and thorough study of the best methods of communicating knowledge in such a way as to lead a child to make proper use of his faculties, and to observe, think, and therefrom draw conclusions for himself.

To furnish such instruction is the special province of normal schools, and the best mode of imparting this is to make it exceedingly practical by having oral and written lessons, illustrating certain points of theory, and afterwards subjected to criticism by the teacher and class.

The principles underlying the true method of objective teaching are those derived from the theories of Pestalozzi, who declared that "the culture of the outer and inner senses is the absolute foundation of all knowledge—the first and highest principle of instruction." These ought to be thoroughly understood by the teacher, and kept constantly before him in his work, being regarded as a standard by which every lesson, and, in fact, every part of every lesson, is to be tested. The principles are variously stated by different authors, but as clear and correct an enunciation of them as any we know is the following:

1. Cultivate the faculties in the natural order.
2. Do one thing at a time.
3. The child and not the teacher should do the work.
4. Be thorough.
5. First gain the idea, then the expression.
6. Cultivate language.
7. Separate every subject into its elements.
8. Present the subject in the order of dependence.
9. Proceed from particulars to the general.
10. Proceed from the concrete to the abstract.
11. Proceed from the simple to the more difficult.
12. First synthesis, then analysis.

—*Normal Review.*

THE ART OF TEACHING.

The art of teaching may be defined as a skilful adaptation of the science of teaching in the school-room; or, in other words, the application of the laws of a natural and rational education, based upon a study of the nature of the child to be trained. The guiding principle in the art of teaching may be condensed into the following statement: It is what the child does for himself, under wise direction, that educates him. The untrained and unskilled teacher holds that children are educated by what is told to them, or by what they memorize from text-books. To him all children are alike—vessels to be filled to the brim with facts. To him children have bu one faculty, that of memorizing words. He does not educate them—that is, draw out, train, and discipline their faculties; he does not awaken their curiosity, and lead them to observe and think for themselves; his process is purely mechanical, as if he considered his school a factory, and the boys and girls as so much raw material, to be turned out the desired manufactured article. For him there are no educational authorities. He teaches just as he would if Pestalozzi, Froebel, Spencer, Arnold, Mann and Russell had never thought, observed, discovered and written. He teaches just as he was taught, in the "good old way" of our fathers, the stupefying effects of which some of us had the misfortune to experience a quarter of a century ago—a "way" which is still followed in many country schools, in some city schools, and in not a few high schools and colleges. This way is self-perpetuating by blind imitation. It is impervious to criticism, and will die out only when the species of untutored school-keepers shall be regarded as fossils in a past educational formation.

The following are a few of the unscientific and inartistic methods characteristic of too much of our "school-keeping:"

1. A blind adherence to the text-book in use.
2. The *verbatim* recitation of memorized lessons, without reference to ideas.
3. The failure to aid pupils in thinking by suitable explanations.
4. Telling everything in advance, and giving pupils no chance to find out anything for themselves.
5. In arithmetic, requiring the logic of problems before thorough training in adding, subtracting, multiplying and dividing numbers. In wasting time on technical "school-masterisms," instead of concentrating the attention upon essentials.
6. In grammar, by requiring definitions, parsing, conjugations, and rules of syntax before practice on sentence-making.
7. In geography, by memorizing the answers to a multitude of map questions, to which the child attaches no correct notions, before laying a foundation of ideas drawn from the personal observation of local surroundings.
8. In history, by memorizing useless particulars before taking leading effects.
9. In botany, by taking books before plants.
10. In physics, by taking text-book statements and omitting experiments.
11. In reading, by training children to call words which convey to their minds no correct ideas.
12. In drawing, by drudging upon lines, angles and geometrical forms, before the delineation of common and interesting objects.

In view of the charlatanism and empiricism to be found both in courses of study and methods of instruction, we may be tolerant of the opinions of those who assert that there is, as yet, in our common schools neither an art nor a science of teaching.

A State Superintendent who had made, during a long term of office, hundreds of visits to all classes of country schools, declares that he never once saw a teacher conduct a recitation without a text-book in hand; that he seldom saw either teacher or pupils at the black-board; that he never saw a school globe actually in use; that he never saw a teacher give an object lesson; that he never heard a lesson in morals or manners; that he saw but one school cabinet; that he never saw a reading class trained to stand erect and hold a book properly; that he never heard a teacher give a lesson in local geography, and he never found a school where the children had evidently had one; that classes, when asked to point north, uniformly pointed upward to the zenith; that he never heard a spelling lesson dictated in which the teacher did not mispronounce one or more words, and that he never found a school where the pupils had been taught to write a letter either of business or friendship.

An examiner in one of the ten largest cities in the United States says that he found many classes of primary children who had been to school for three years and had never made a figure or a letter upon the black-board; that lessons in "oral instruction" were written on the black-board by teachers, copied into blank-books, and memorized by pupils; that the school globe was seldom used; that most of the teaching consisted in hearing *verbatim* text-book lessons; that pronunciation was slovenly; that pupils were trained neither to think nor to speak; that half the recitations were conducted in writing; that pupils were kept up at high pressure by frequent competitive written examinations; and that the anxiety of teachers seemed to be, not to develop the faculties, but to cram the memory to pass the "annual examination."

Such bungling teaching is a natural outcome of the popular notion that any person who has been "educated" can become a teacher without special training in the science and art of teaching.

There is no class of teachers so hopelessly unprogressive as those who have grown wrong-headed from untrained experience, and who are ignorant of their own ignorance of skilled methods. It is this class of pedagogues that Carlyle has so graphically made immortal: "My teachers were hide-bound pedants, without knowledge of men's nature, or of boys', or of aught save lexicons and quarterly account books. Innumerable dead vocables they crammed into us, and called it fostering the growth of the mind. How can an inanimate, mechanical verb-grinder foster the growth of anything—much more of mind, which grows not like a vegetable (by having its roots littered with etymological compost), but like a spirit, by mysterious contact with spirit—thought kindling itself at the fire of living thought? How shall he give kindling in whose own inward man there is no live coal, but is burnt out to a dead grammatical cinder? My professors knew syntax enough, and of the human soul this much: that it had a faculty called memory, and could be acted on through the muscular integument by appliance of birch rods."—JOHN SWETT, *in Cal. School Report.*

PRACTICAL COMPOSITION FOR GRAMMAR GRADES.

BY JOHN SWETT, PRINCIPAL GIRLS' HIGH SCHOOL, SAN FRANCISCO.

Special Directions for Pupils.

1. Avoid "fine writing."
2. Never use two words where one will fully express your meaning.
3. Avoid long and complicated sentences.
4. Divide into paragraphs, and punctuate *as you write.*
5. In correcting your first rough draft, observe the following order:

a. Cross out any *adjectives,* or other words that can be spared.

b. Interline any omitted words, or transpose any words, phrases or clauses to a better position in the sentence.

c. Substitute more exact words whenever by doing so you can make the sentence clearer.

d. Go over your composition very carefully, with reference to 1. Spelling; 2. Capitals; 3. Punctuation; 4. Grammatical correctness; 5. Dot your *i's* and cross your *t's.*

6. Copy in a legible handwriting.

GENERAL PRINCIPLES OF SENTENCE-MAKING.

1. Every sentence must be complete. It must contain at least one principal subject and one principal predicate, each of which must either be expressed or clearly implied.
2. Explanatory words, phrases or clauses, must be connected as closely as possible to the words which they explain or modify.
3. In simple sentences, be careful about the position of words and phrases: in complex sentences, about the position of clauses and the use of connectives: and in compound sentences, about the use of conjunctions of the *and* type.
4. When there are several adverbial phrases or clauses in a sentence, they should be distributed over the sentence, instead of being crowded together near the close.
5. Avoid writing long complex or compound sentences. It is better for beginners to write short sentences.
6. Use only words whose meaning you fully understand.
7. Express simple ideas in plain words.
8. Avoid the use of high-sounding adjectives, and high-flown language.
9. Use only words enough clearly to express your meaning.

THE PARAGRAPH.

A paragraph is a closely connected series of sentences relating to the same subject, or to some particular part of a subject. Sentences are built up of words, phrases and clauses; paragraphs are made up of simple, complex or compound sentences; composition consists of a succession of connected paragraphs.

The art of dividing a piece of composition into paragraphs is best learned by noticing carefully the paragraphing in your readers, histories, or other books; but the following directions may be of use to beginners:

1. In general, make a new paragraph whenever you make a new turn of thought.
2. Denote a new paragraph by beginning the sentence a short space to the right of the left hand margin.
3. The sentences included in one paragraph should all relate to the same division of the subject.
4. The line of thought should be continued between paragraphs, if necessary, by some such connectives as *and, but, moreover, however, thus, at the same time,* etc.

HOW TO HAVE A BAD SCHOOL.

1. Elect the most ignorant, bigoted, close-fisted old fogies in the district for trustees.
2. Employ the cheapest teacher you can get, regardless of qualifications, reputation or experience.
3. Find all the fault you can with the teacher, and tell every body; especially let the pupils hear it.
4. When you hear a bad report about the teacher or the school, circulate it as fast as you can.
5. Never visit the school or encourage the teacher.
6. Take close notice of what seems to go wrong, and tell everybody about it, except the teacher.
7. Never advise your children to be obedient to the teacher, and when one is punished, rush to the school-room before your passion is cooled, and give the teacher a hearing in the matter in the presence of the school.
8. Be indifferent about sending your children to school regularly.
9. Do not be concerned whether they have the necessary books.
10. If any of the scholars make slow progress, blame the teacher for it.
11. Occupy your old, tumble-down school-house as long as you can, and do not go to any expense to repair it.
12. Do not go to any expense to get apparatus, improved furniture, etc.
13. If the teacher or pupils should complain of an uncomfortable or inconvenient school-room, do not consider it worthy of notice.
14. Get the cheapest fuel you can.

In general, conduct your school on the cheapest possible plan, and let your chief concern be to find fault and devise ways of retrenchment.

If these rules are faithfully carried out, you are not likely to fail in having a bad school; to see your children grow up vicious and ignorant, or look back with bitter censure on their parents for robbing them of their birthright; you will see the morals of your town and district degenerate, decent and enterprising people move out, taxes increase, property diminish in value, and the whole community on the high road to a devil's paradise. It is a sure recipe, and many a district in this county has got the name "God-forsaken" by cheapening and neglecting the schools.—*Countryside.*

COUNTY OF LINCOLN PROMOTION EXAMINATIONS.

FROM 2ND TO 3RD CLASS.

DECEMBER 16TH AND 17TH, 1880.

ARITHMETIC.

Value.	
3×4	1. Write in figures: Forty-seven thousand and four; two hundred and six thousand, five hundred; ninety thousand and seventeen.
6+6	2. Multiply 10197 by 80071, and from the product take 7079034.
5	3. Add 47, 3072, 6, 479, 40586, 12, 24, 7580, 14, 256.
10	4. How often is 197 contained in a million?
15	5. A farmer had 1129 barrels of apples. After selling 779 barrels, losing 65 barrels from decay, and giving away 21 barrels to his friends, how many has he left?
16	6. A person buys at a store 14 lbs. of rice at 7c. a lb., 4 lbs. of tea at 95c a lb., 25 glass jars at 20c each, and a lamp for 75c; what does he pay for all?

For mechanical questions little or nothing should be given for a solution that is not accurate. Full work required.

Junior 3rd to Senior 3rd Class.

Value.

10 1. Find the sum of three hundred and two dollars and three cents; forty-six dollars and seven cents; two hundred dollars; one dollar and ninety cents; eight cents and fifty-seven dollars.

10 2. A man receives $64 a month and spends $40; how much does he save in 14 months?

12 3. Divide the product of 759 and 806 by 906.

15 4. Divide sixteen million, eighty-four thousand four hundred and forty by forty-eight, using factors.

18 5. How many bushels of wheat, worth $1.00 a bushel, are worth 28 cords of wood, worth $4 a cord?

15 6. There are 4,840 square yards in an acre; how many square yards in seven farms, containing 58 acres each?

15 7. I paid four thousand and twenty dollars for 12 village lots. I wish to sell each lot for $5.00 more than I paid for it; what shall I sell each for?

Full work required.

From 3rd to 4th Class.

Value.

10 1. A farmer owning 100 acres, sold 17 a., 2 r., 20 sq. per., 12 sq. yds. of his farm; how much has he left?

10 2. Bought cherries at $2.56 a bushel, and sold them at 10c a quart; how much do I gain on the sale of 4 bush., 3 pecks.

15 3. How many gold coins, each weighing 11 dwt., 6 grs., can be made from 4 lbs. 8 oz. 5 dwt. of standard gold?

10 4. How many lbs. in 1,200 ounces of sugar? How many lbs. in 1,800 ounces of silver?

15 5. 11 hogs weigh 1 ton, 14 cwt., 1 qr., 22 lbs.; what is the average weight of each hog?

15 6. How many telegraph poles on a road 3 miles, 3 furlongs long, if the poles are placed 100 yards apart?

15 7. Multiply £17 18s. 9¾d. by 567.

Full work required.

From 4th to 5th Class.

Value.

1. What will 1,830 lbs. of hay cost at $13 a ton?
2. How much will it cost to carpet a room 21 ft. 4 in. long and 16 ft. 8 in. wide, with carpet 2 ft. 8 in. wide, at $1.37½ per yard?
3. Divide ·01295 by ·123.
4. Divide $\frac{1\frac{3}{4}}{4\frac{1}{2}}$ by $\frac{2\frac{1}{3}}{2\frac{1}{4}}$.
5. A house and lot are together worth $716.40, but the house is worth six times as much as the lot; find the price of each.
6. How many steps, each 2 ft. 9 in. long, will a person take in walking round a 9 acre field that is 36 rods wide?
7. Find the price of 3 loads of barley, each containing 56 bushels and 20 lbs., at 56c per bushel.
8. What fraction of a cord is a pile of wood 6 ft. 4 in. long, 3 ft. 4 in. high, and 20 in. wide?

Values, 10 each—full work.

Junior 3rd to Senior 3rd Class.

GRAMMAR.

Value.

1. Give lists of the nouns and adjectives on page——— of your reading book, from——————to——————.

18 2. Place three appropriate adjectives before each of the following nouns, placing *a* or *an* before each adjective: Tree, house, bird, slate, day, ice.

N.B.—The same adjective must not be placed before two of the nouns.

18 3. Divide the following sentences into subject and predicate:

(1.) The king borrowed money of the citizens.
(2.) A rude boy, with a dog, ran past the house.
(3.) Next morning he was hungry.
(4.) Dumb creature never appeared more grateful.
(5.) In the depth of winter wolves become very fierce.
(6.) Here is a basket of beautiful flowers.

From 3rd to 4th Class.

Value.

8 1. Write the possessive case, singular and plural, of each of the following nouns: Boy, child, king, woman.

9 2. Divide into subject and predicate: (1.) Where are the pigeons? (2.) In the morning he came to school. (3.) Write carefully.

10+12 3. Analyse "Mr. Brown's little boy attends school regularly," and parse the nouns and adjectives.

41 4. Classify the parts of speech in the following:—England had long regarded her naval power as supreme, and had been made so confident of success by a long series of ocean victories, that she treated the American war with undisguised contempt. On the other hand, the Americans introduced into their naval operations the same smartness that distinguished their commercial transactions.

Neatness required.

From 4th to 5th Class.

Value.

With the fleetness of thought now *commenced* a *race that had* apparently *for its object* the *recovery* of the lost ball, and *in* which *he* who *had driven* it with resistless force *outstripped* them *all*.

25 1. Write each proposition in the above separately, stating its kind, and analyze in full the principal proposition.

30 2. Parse the words in the above printed in italics.

10 3. Give examples of all the different kinds of attributive adjuncts, underlining each adjunct.

15 4. Write sentences containing one of each class of pronouns, and state the class of each example given, and decline it where possible.

Neatness required.

Junior 3rd to Senior 3rd Class.

GEOGRAPHY.

Value.

2 1. Which is the largest ocean? The largest continent?

12 2. Name a river flowing into each of the following waters: Gulf of Mexico, Gulf of California, Caribbean Sea, Bay of Bengal, Persian Gulf, Caspian Sea, Black Sea, Gulf of Lyons, Bay of Biscay, Baltic Sea, North Sea, Mediterranean Sea.

4 3. What two oceans are separated by the Continent of America? By the Continent of Africa?

5×4=20 4. What waters would a ship pass through in sailing from the River St. Lawrence to the Continent of Europe? From Hudson's Bay into the Atlantic Ocean? From Australia to the Red Sea? From the River Thames to the Mediterranean Sea? From the Pacific into the Arctic Ocean?

12 5. Name two chains of mountains in N. America, one in S. America, five in Europe, three in Asia, one in Africa.

FROM 3RD TO 4TH CLASS.

Value.	
10	1. Name all the great lakes of North America.
4	2. Give the boundaries of British Columbia.
5	3. Why are there no large rivers on the west coast of South America?
7	4. Name the Provinces of Canada, with their capitals.
9	5. Name each city of Ontario, and tell where it is situated.
10	6. What waters must a vessel pass through in sailing from Montreal to Lake Superior?
6	7. How would you sail from New York to San Francisco?
10	8. Give the boundary line between Europe and Asia.
9	9. Name all the large rivers of North America and the waters into which they flow.

All the maps to be removed. Neatness required.

FROM 4TH TO 5TH CLASS.

Value.	
10+3+3	1. A vessel leaves London, England, for Calcutta. Through what waters must she pass? What cargo might she take out? What might be her return cargo?
8	2. Name the tributaries of the following rivers: Amazon, Mississippi, Danube, Indus.
15	3. Starting from Hamilton, name the lines of railway you would travel over to reach the following places from that city: Suspension Bridge, Toronto, Montreal, Barrie, London, Ottawa, Guelph, Halifax.
32	4. What and where are Duluth, Gravenhurst, Mackinac, Suez, Spartivento, Siam, Baltimore, Cincinnati, Congo, Richelieu, Anglesea, Aden, Bombay, Corrientes, Formosa, Dardanelles.
9	5. Describe the changes of the moon and state the cause; how does the moon affect the tides?

Neatness required. No access to maps or books to be allowed.

SPELLING.

(Not to be seen by pupils.)

FROM 2ND TO 3RD CLASS.

1. Bundle of fagots.
2. Mother's scissors.
3. Guardian.
4. Colts' manes.
5. Neighbors' children.
6. Amiable.
7. Seized it in her jaws.
8. Wretched.
9. They've caught scores.
10. Treacherous.
11. He went straight home.
12. Thwarting.
13. Perseverance.
14. I went to the kite's assistance.
15. Wrinkled.
16. Befallen.
17. Pallid fear's distracting power.
18. Borrowed.
19. Twisted round the buoy.
20. Persuaded.
21. Citizen.
22. Maple sugar.
23. Seized by the forepaws.
24. Wreaths of clustering leaves.
25. Descendants.
26. Tormentor.
27. Corn in a sieve.
28. Bulrushes.
29. Awkward.
30. Hospitable.

Two marks for each number. One off for every mistake. Writing must be legible. Dictate slowly and give all necessary explanations. Reading—value, 40. Writing—value, 30.

JUNIOR 3RD TO SENIOR 3RD CLASS.

1. With quivering breath.
2. A Saturday afternoon.
3. Signs of mischief.
4. The coal business.
5. Faltering of purpose.
6. A violent quarrel occurred.
7. Made an ineffectual effort.
8. Producing a great sensation.
9. The road to permanent success.
10. Upon a more leisurely survey of the bridge.
11. Digging and shovelling.
12. He was an industrious young man.
13. Could not be thoroughly domesticated.
14. The coo of a pigeon.
15. The little rogue of a red squirrel.
16. Which recommend it to a lenient judgment.
17. Highly scented blossoms.
18. Encouraged to make one more effort.
19. In his eloquent plea for dogs.

Two marks for each number—one mark off for each mistake.

Dictate distinctly.

Reading, 40 marks; writing 40 marks.

FROM 3RD TO 4TH CLASS.

1. The serpent seized the reptile's lower jaw.
2. It was a lizard of brilliant colors.
3. A miniature crimping machine.
4. Company's establishments.
5. Topographical engineering.
6. Diameter.
7. Disgusting deities.
8. Conspicuous cowardice.
9. Now discreeter grown.
10. Horrified artist.
11. His assailant in a moment of irritability.
12. Courageously.
13. Mrs. Lee frightened a tiger by stratagem.
14. Their club's perpetual president.
15. Altogether scatheless.
16. Proboscis.
17. Timour, the great conqueror.
18. Thistle and brier.
19. Impudent nonchalance.
20. Mischievous.
21. Beauty's epitome.
22. In a moment's cessation.
23. Roguish saucy familiarity.
24. Singular procedure.
25. The fugitive was secluded and solitary.
26. Regiment.
27. Catastrophe.
28. Newfoundland fishery.
29. Neighboring cemetery.
30. Exertion and ingenuity.
31. From Detroit to Buffalo.
32. Tradition.
33. New Year's Eve.
34. Seized the Dervise.
35. Lieutenant.
36. The dyer who by dying lives.
37. Avarice.
38. Jollity.
39. Inexpressibly melodious.
40. The wreck of the Hesperus.
41. Lake Ontario.
42. December's woollen garb.

Two marks for each number. One deducted for each mistake. Write at once on paper. Writing, 40; reading, 40.

DICTATION.

FROM 4TH TO 5TH CLASS.

Page 230 of the Fourth Reader, from "Dismayed by so many" to "Enveloped them," on page 231.

Value, 50—4 marks off for each mistake.

COMPOSITION.

Page 167 of the Fourth Reader. Read to the pupils from the beginning to the end of the lesson, and let them write the substance of the extract in their own words.

Reading, 50; writing, 50; may be judged from Composition papers.

HISTORY.

FROM 4TH TO 5TH CLASS.

Value.	
5	1. What led to the invasion of Britain by the Saxons?
10	2. Who were the Danes, and what Danish kings ruled in England?
5+10	3. Who were the Normans? How did they differ in language, religion and government from the Saxons?
4×5=20	4. Tell what you know of the first Parliament in England, the Magna Charta, the Wars of the Roses and the Crusades.

PUPIL TEACHERS' EXAMINATION PAPERS, NOVEMBER, 1880.

CANDIDATES.

THREE-AND-A-HALF *hours allowed.*

ARITHMETIC.

MALES.

1. Find, by Practice, the difference in cost between 190 articles at £1 5s. 6d. each, and 198 articles at 17s. 11¾d. each.

2. If I can buy 21 cwts. 3 qrs. 21 lbs. of cheese for £93 12s., what should be paid for 3¼ cwts. of the same sort?

3. If 56 men can earn £228 12s. in 31½ days, how many of these men, working for 3½ days, should be paid £19 1s.?

4. A man who owes £9,619 14s. 6d. can pay only 1s. 8d. in the £. What are his effects worth?

FEMALES.

1. Find the cost of 3,764 articles at £18 14s. 7½d. each.

2. What is the value of 17 tons 16 cwt. 2 qrs. 7 lbs. at £6 7s. 10d. per cwt.?

3. What would be the cost of constructing a telegraph for a distance of 590 miles 7 fur. 4 poles, at £386 10s. per mile?

4. Make out the following bill:—49 pairs of blankets at 19s. 9d. per pair; 217 yards of muslin at 1s. 6½d. per yard; 91 pairs of stockings, at 1s. 6d. per pair; 231 yards of calico at 10d. per yard; 126 pairs of gloves at 3s. 3d. per pair.

GRAMMAR.

1. Point out and parse all the adjectives and verbs in the following:—

"'Tis merry, 'tis merry in Fairyland,
When fairy birds are singing,
When the court doth ride by their monarch's side,
With bit and bridle ringing;
And gaily shines the Fairyland,
But all is glistening show;
Like the idle gleam that December's beam
Can dart on ice and snow."

2. In comparing adjectives, when do you add *er* and *est*, and *more* and *most*? Give examples.

3. Give the feminine gender of the following words:—Bachelor, bridegroom, lord, earl, nephew.

GEOGRAPHY.

1. Which are the most *indented* parts of the coast of Great Britain? And which are the least *indented?* Show that your answer is right by describing minutely the parts of the coast which you mention.

2. Describe, as fully as you can, the islands in the German Ocean, the English Channel, and the Irish Sea, *not* including Great Britain or Ireland.

3. Trace, in words, the course of a traveller from Edinburgh, by Stirling, Loch Lomond, and Oban, to Inverness, describing, as minutely as you can, what he would see on his journey.

COMPOSITION.

Write from dictation the passage given out by the inspector:—

If you have eyes | and brains | you will hardly care | to fish such a stream | as that, | whether she be roaring down | in full flood | like coffee covered with cream, | while the fish | are swirling | at your fly, | or flashing up the cataract, | out of the fiercest | of the foam, | or whether | she be dwindled | to a single thread | while the salmon | huddle in one dark cloud | in the clear amber pool; | for | you will lay down | your rod | and drink in | at your eyes | the beauty | of glorious nature, | and watch the yellow roes | come to drink | and look at you | with their great | soft, trustful eyes. |

PENMANSHIP.

Write, in large hand, as a specimen of copy-setting, the word *Selfishness.*

Write, in small hand, as a specimen of copy-setting, "*I should not die but in Jerusalem.*"

PUPIL TEACHERS AT END OF FIRST YEAR.

THREE-AND-A-HALF *hours allowed.*

ARITHMETIC.

MALES.

1. If $1{\cdot}68\dot{3}$ lbs. of gold be worth £81, how many *ounces* of gold can be had for $£8{\cdot}0\dot{1}9\dot{8}$?

2. What is the cost of 1 article when $137\frac{7}{8}$ of them cost £3780 17s. $9\frac{23}{32}$d.?

3. I paid £·09375 for an *ounce* of seed, how much would ·09375 *lbs.* of this seed cost?

4. Find in £ s. d. a quarter's rent of 27·832 acres of land at £1·225 per acre per annum?

FEMALES.

1. If the net income of an estate, after paying all taxes, be £534 15s., and the gross income be £570 8s., how much in the pound did the taxes amount to?

2. The sixpenny loaf weighs 3¼ lbs. when wheat is 50s. a quarter; what will it weigh when wheat is 40s. 3d. a quarter?

3. I borrow £175 10s. for ten months when money is worth 5 per cent.; how much must I lend in return for 12 months, when money is worth 3½ per cent.?

4. If the price of 100 bricks, of which the length, breadth, and thickness are 16, 8, 10 in. respectively, be 5s. 4d., what will be the price of 9,760 bricks which are one-fourth greater in every dimension?

GRAMMAR.

1. All silent there they stood and still,
Like the loose crags whose threatening mass
Lay tottering o'er the hollow pass,
As if an infant's touch could urge
Their headlong passage down the verge,
With step and weapon forward flung,
Upon the mountain side they hung.

(*a*) Point out and parse all the adverbs and pronouns in the above.

(*b*) Show from the above that an adjective may seem to govern a word in the objective case; explain the construction and give other examples.

2. How would you parse the prepositions in the following?—

"He had a box to bring home groceries in."

"It was a thing I was used to."

GEOGRAPHY.

Answer *either* Q. 1 *or* Q. 3, *but not both.*

1. Which are the most indented parts of the coast of Great Britain, and which are the least indented? Show that your answer is right by describing minutely the parts of the coast which you mention.

2. Draw a map of Holland, and describe the character and habits of the people. If you can, mention any facts in their history which throw light on their character.

3. Say what you know about *Nice, Turin, Milan, Como, Venice, Florence, Brindisi, Spartivento,* and *Palermo.*

HISTORY.

1. Write down the names and dates of—1. Our Norman kings; 2. Our Sovereigns of the House of Tudor; 3. Our Sovereigns of the House of Hanover.

PENMANSHIP.

Same exercise as that set for Candidates.

COMPOSITION.

A gentleman had a corncrake brought to him by his dog, to all appearance quite dead. As it lay on the ground he turned it over with his foot, and felt convinced that it was quite dead. Standing by, however, in silence, he suddenly saw it open an eye. He then took it up; its head fell, its legs hung loose, and it appeared again quite dead. He then put it in his pocket, and before long he felt it alive, and struggling to escape. He then took it out; it was as lifeless as before. Having laid it again upon the ground and retired to some distance, the bird in about five minutes warily raised its head, looked round, and decamped at full speed.

PUPIL TEACHERS AT END OF SECOND YEAR (*if apprenticed on, or after, 1st May,* 1878), AND PUPIL-TEACHERS AT END OF THIRD YEAR (*if apprenticed before that date*).

THREE-AND-A-HALF *hours allowed.*

ARITHMETIC.

MALES.

1. To what sum will £320 amount in 6½ years at 2¾ per cent. per annum, simple interest?

2. In how many years will £250 amount to £500 at $8{\cdot}\dot{8}$ per cent. per annum, simple interest?

3. Find the difference between 1·625 per cent. of ·00088 of a million of money and 3¼ per cent. of the same.

4. If £194 17s. 6d. will gain £29 4s. 7½d. in three years, find the

principal which will, at the rate of simple interest, amount to £56 17s. 6d. in five years.

FEMALES.

1. Find the sum of $387\frac{1}{2}+285\frac{1}{3}+394\frac{1}{3}$ and $\frac{2}{5}$ of 3,704.
2. Divide $3\frac{1}{4}-\frac{5}{6}$ of $\frac{4}{15}$ by $21\frac{1}{5}+\frac{3}{10}+4\frac{1}{3}$ of 5.
3. Find the value of $\frac{1}{3}$ of a guinea $+\frac{3}{8}$ of a crown $+\frac{3}{5}$ of 7s. 6d. $-\frac{3}{4}$ of 2d.
4. Find the value of $\frac{5}{6}$ of a bushel $-\frac{5}{7}$ of a peck.

GRAMMAR.

1. "And this I'll *swear* to you dear rain,
Whenever you shall *come* again,
Be you as dull as e'er you can,
I'll welcome you with cheerful face;
And, though you stayed *a week* or more,
Were *ten times* duller *than before*,
I'll sit and listen to you still:
But *only now*—for this one day—
Do *go*, dear Rain, do *go* away."

—COLERIDGE.

(*a*) Analyse the principal sentences in the above.
(*b*) Parse the words in italics.
(*c*) There is a verb in the above which is in the subjunctive mood. Point it out, and state why you think it is in that mood.
(*d*) Point out all the conjunctions in the above, and show what sentences they join together.

GEOGRAPHY.

Answer *either* Q. 1 *or* Q. 3, *not both.*

1. Which are the most *indented* parts of the coast of Great Britain? And which are the least indented? Show that your answer is right by describing minutely the parts of the coast which you mention.
2. Draw a map of British North America, showing the physical features and the position of the different colonies.
3. Name four important towns in Hindostan, *not* including Calcutta, Madras, or Bombay; and describe minutely the position and character of each.

ONE *hour allowed for females.*

TWO-AND-A-HALF *hours allowed for males.*

HISTORY.

1. How long were the Romans engaged in conquering Britain? What explanation of the length of time would you give to a class?
2. What circumstances towards the close of the Saxon period prepared the way for the Norman conquest?
3. Which of the Plantagenet kings made most effort to extend their dominion within the British Isles? How far were their efforts successful?

PENMANSHIP.

Same exercise as that set for Candidates.

COMPOSITION.

Write full notes of a lesson on *the meaning of a decimal fraction.*

EUCLID.

[All generally understood abbreviations for *words* may be used, but not symbols of *operations*, such as —, +, ×.]

1. Find a point which is equidistant from the angles of a given triangle.
2. If one side of a triangle be produced, the exterior angle is greater than either of the interior opposite angles.
3. If two triangles have two angles of the one equal to two angles of the other, each to each, and one side equal to one side, viz., either the sides adjacent to the equal angles in each, or the sides opposite to them, then shall the other sides be equal, each to each, and also the third angle of the one equal to the third angle of the other.

PUPIL-TEACHERS AT END OF THIRD YEAR (*if apprenticed on, or after, 1st May, 1878*), AND PUPIL-TEACHERS AT END OF FOURTH YEAR (*if apprenticed before that date*).

THREE-AND-A-HALF *hours allowed.*

ARITHMETIC.

MALES.

1. What sum will amount to £734 17s. $4\frac{7}{50}$d. in $4\frac{1}{5}$ years, simple interest being given at the rate of $7\frac{2}{5}$ per cent. per annum?
2. A sum of £3,000 is to be divided among *A*, *B*, *C*, so that *B* shall have 100 per cent. more than *A*, and *C* 50 per cent. more than *B*. What will each receive if 10 per cent. of the money be first given to a local charity?
3. I bought 96 articles at £1 0s. $2\frac{1}{2}$d. each, and sold the lot at a gain of $12\frac{1}{2}$ per cent. How much did I receive, and how much did I gain?
4. After investing £1,848 in the 3 per cents. at 88, the stocks rose, and I sold out so as to realise a gain of £49 17s. 6d. What was then the price of the stocks?

FEMALES.

1. Find the quotient of ($7\frac{1}{2}$ of $\frac{1}{5}+\frac{17}{25}$) by ·0005.
2. Simplify, expressing the result in a fractional and decimal form, $-\frac{\cdot015\times2\cdot1}{\cdot035}$.
3. A man walked in four days 60 miles; in each of the three first days he walked an equal distance, in the fourth day he walked 13·95 miles; find the amount of his daily walking.
4. A person has ·1875 of a mine; he sells $\cdot1\dot{7}$ of his share; what fractional part of the mine has he still left?

GRAMMAR.

1. "Ye fragrant clouds of dewy steam,
By which deep grove and tangled stream
Pay for soft rains in season given
Their tribute to the genial Heaven,
Why waste your treasures of delight,
Upon our thankless, joyless sight?"

(*a*) Analyse the principal sentence in the above.
(*b*) Show that the subordinate sentence in the above is an adjective sentence, and give other examples of the same kind.
(*c*) Give, in your own words, the meaning of the first four lines (from "Ye" to "Heaven").
2. What is the force of the Latin prepositions in the following words compounded with them:—Succour, supplant, depart, despise, differ, transfer. State what the preposition is in each case.
3. Parse each word in the following:—"England has had many heroes, but never one who so entirely possessed the love of his fellow-countrymen as Nelson."

GEOGRAPHY.

Answer *either* Q. 2 *or* Q. 3, *not both.*

1. Give notes of a lesson on "The Overland Journey to India," by Brindisi and the Suez Canal.
Illustrate your lesson by a map of the Red Sea.
2. Name the chief rivers of Africa, and describe the sources and course of each, as far as they are known.
3. Name four important towns in Hindostan, *not* including Calcutta, Bombay, or Madras; and describe minutely the position and character of each.

ONE *hour allowed for females.*

TWO-AND-A-HALF *hours allowed for males.*

HISTORY.

1. What do you understand by Cavaliers and Roundheads? Explain the leading principles of the two parties.
2. Give some account of the wives of James II. and their issue.
3. When, and under what circumstances, was the Battle of Inkerman fought?

PENMANSHIP.

Same exercise as that set for Candidates.

COMPOSITION.

Write from memory the substance of the passage read to you by the inspector:—There came a strange woman to Tarquin, King of Rome, and offered him, for a certain price, nine books of the prophecies called the Sibyl. When the king refused them, the woman went and burnt three of the books, and came back and offered the six at the same price which she had asked for the nine; but they mocked at her, and would not take the books. Then she went away, and burnt three more, and came back and asked still the same price for the remaining three. At this the king was astonished, and asked of the diviners what he should do. They said that he had done wrong in refusing the gift of the gods, and bade him by all means to buy the books that were left. So he bought them; and the woman who sold them was seen no more from that day forwards. Then the books were put into a chest of stone, and were kept underground in the Capitol; and two men were appointed to keep them, and were called the two men of the sacred books.

EUCLID.

[All generally understood abbreviations for words may be used, but not symbols of operations, such as —, +, ×.]

1. The sum of the angles of every figure is equal to an even number of right angles.

2. The opposite sides and angles of a parallelogram are equal to one another, and the diameter bisects it—that is, divides into two equal parts.

3. To describe a square upon a given straight line.

ALGEBRA.

1. Divide $x^3-8y^3+125z^3+30xyz$ by $x-2y+5z$.

(1) $\frac{p-q}{pq}+\frac{r-q}{rq}+\frac{q-r}{qr}$.

(2) $\frac{1}{x^3}+\frac{1}{x^2}-\frac{1}{x}+\frac{x-1}{x^2+1}-\frac{1}{(x^2+1)^2}$.

2. Solve the equations:—

(1) $\frac{9x+7}{2}-\left(x-\frac{x-2}{7}\right)=36$.

(2) $\frac{x(2x+3)}{2x+1}+\frac{1}{3x}=x+1$.

PUPIL-TEACHERS AT END OF FOURTH YEAR (*if apprenticed on, or after, 1st May, 1878*), AND PUPIL-TEACHERS AT END OF FIFTH YEAR (*if apprenticed before that date*).

THREE-AND-A-HALF *hours allowed.*

ARITHMETIC.

MALES.

1. If simple interest at $5\frac{1}{2}$ per cent. per annum be allowed, in how many years will £102 10s. amount to £115 3s. $8\frac{1}{4}$d.?

2. By investing £1,400 in the $3\frac{1}{2}$ per cents I gain $4\frac{1}{2}$ per cent. on my outlay. How much stock do I buy, and what is the price of it?

3. What per cent. of $32\frac{1}{9}$ is the square root of that number?

4. If tea be sold in $\frac{1}{2}$lb. packets only, how many packets must I purchase that I may supply 80 persons with $\cdot 0769\dot{2}\dot{3}$ of a pound each; and what vulgar fraction of my whole purchase will be left?

5. A man buys 27 copies of a work for £30, and sells $\cdot\dot{4}$ of them at a loss of 3 per cent. He sells the remaining copies for £$17\cdot 81\dot{6}$; how much per cent. does he gain or lose by the transaction?

FEMALES.

1. Find the amount of £411 10s. for $\frac{1}{4}$ year at $4\frac{7}{8}$ per cent.

2. If a man can reap $345\frac{5}{9}$ square yards in one hour, how long will 7 such men take to reap 6 acres?

3. A tax of £530 is to be raised from three towns, the numbers of the inhabitants of which are respectively 2,500, 3,000, and 4,200. How much should each town pay, and each person in it?

4. Between the years 1821 and 1831 the population of a town increased by 22 per cent., and in the latter year it was 61,116. What was it in 1821?

GRAMMAR.

1. Break up the following complex sentence into simple sentences, beginning a new line with each simple sentence:—

"All crimes shall cease and ancient frauds shall fail,
Returning justice lift aloft her scale,
Peace o'er the world her olive wand extend,
And white-robed Innocence from heaven descend."

2. Parse the verbs and participles in the above.

3. What conjunctions should be followed by the subjunctive mood? Give four examples, using a different conjunction in each.

4. Point out which of the following words are of Celtic, and which are of Saxon origin; and state what class of things, generally, have Celtic names:—Sheep, ship, bread, milk, basket, mop, mattock, pail.

GEOGRAPHY.

1. Draw a full map of British North America, showing the physical features, and the exact position and boundaries of each colony.

2. Give notes of a first lesson on "The Ocean" to an intelligent first class, who know the position of each ocean, &c., but have learnt nothing else.

N.B.—No introduction! And do not put more matter into your notes than you could bring within the limits of one lesson.

ONE *hour allowed for females.*

TWO-AND-A-HALF *hours allowed for males.*

HISTORY.

1. How far may any of our existing institutions be traced up to Saxon times?

2. What parts of North America are under the British Crown? Tell how we acquired them, and explain the improved feeling shown towards this country.

3. What event is known in our history as the retreat from Cabul? Give some account of it, and of the retribution exacted.

PENMANSHIP.

Same exercises as that set for Candidates.

COMPOSITION.

Write an essay on *The House of Lords.*

EUCLID.

[The only abbreviations allowed for "*the square on AB*" is "*sq. on AB*," and for "*the rectangle contained by AB and CD*," "*rect. AB, CD.*"]

1. If a straight line be divided into any two parts, the rectangle contained by the whole and one of the parts is equal to the rectangle contained by the two parts, together with the square on the aforesaid part.

2. If a straight line be divided into two equal, and also into unequal, parts, the squares on the two unequal parts are together double of the square on half the line, and of the square on the line between the points of section.

3. The sum of the squares on the sides of any quadrilateral figure is equal to the sum of the squares on its diagonals, together with four times the square on the line joining the middle points of the diagonals.

(In solving this problem it may be assumed that in every triangle the sum of the squares on two of the sides is equal to twice the square on half the base, together with twice the square on the line drawn from the vertex to the middle point of the base.)

ALGEBRA.

1. Find the cube root of $8a^6-36a^4x^2+54a^2x^4-27x^6$.

2. Solve the equations—

(1) $\frac{x}{9}+\frac{y}{8}=43$.

$\frac{x}{8}+\frac{y}{9}=42$.

(2) $\frac{4x}{9}+\frac{x-5}{x+3}=\frac{4x+7}{19}$.

3. Find the time between 4 and 5 o'clock at which the hour and minute hands of a watch are together.

MENSURATION.

1. The extremity of the minute hand of a clock moves 5 inches in $3\frac{1}{4}$ minutes; what is its length?

2. A ladder 38 feet long just reaches to a window 29 ft. 6 in. high on one side of the street; on turning the ladder over without moving its foot it reaches a window 28 feet high on the other side; find the breadth of the street.

CHILDREN'S DIET.

Five old women about a quilt! Can the pen of one give a tithe of their conversation record? Let us attempt but a part of it. Mrs. Green began the tournament.

"I hain't seen ye a month o' Sundays, Mrs. Walker; where do ye keep yerself?"

"Why, I've been to hum. 'Tain't real handy to take to babytendin' when ye git along in years a spell; but there don't seem to be nobody else to take care of Bezy's babe but me. Bezy's as pernickity as a woman about the child; he won't lemme give it a speck of nothin' but red cow's milk, and he's nigh about seven months old, an' he'd oughter set in lap to the table, an' take a taste o' vittles along with us. My land! my children used to set to an' grab things as quick as ever I fetched 'em where they could. Little Jemimy was the greatest hand for b'iled cabbage ye ever did see; an' pork! how that child would holler for fried pork! There wa'n't no peace to the wicked till she got it; she'd ha' been a splendid child ef she'd lived; but the summer complaint was dreadful prevalent that year, and it took her off in the wink of an eye, as ye may say; allers doos the healthy children. Then my Samwell, why, he was the greatest hand for pickles that ever was; he'd get a hunk o' fried steak into one leetle hand an' a pickle into t'other, an' he would crow an' squeal. Cuttin' of his stomach teeth was the end o' him: got 'em too early, was took with convulsions, an'

died right off. An' the twins: well, they favored beans—baked beans an' minute puddin'; they was eighteen months old when they died, an' they eet toast and cider like good fellers only the day they was took sick; we'd hed buckwheats and tree molasses for breakfast that day, an' I expect they'd eet too much sweet; it kinner made them squeamy, so't the hard cider jest hed the right tang. Poor little cretures! mabbe 'twas the bilious colic a-comin' on made 'em dry; anyway they was awful sick with't, an' they died a Sunday week, for they was took of a Sunday, an'—"

Miss Polly Paine, a short, plump old maid, gently interrupted here: she thought Widow Walker had occupied the floor long enough.

"But, say, what do you give it *red* cow's milk for? I never knowed there was any great o' virtoo in red cows."

"Sakes alive!" Here Semanthy House, Deacon House's wife, took up the thread of conversation. "I want to know ef ye didn't? Why, red's the powerfullest thing! You jest put a red flannel round your throat, an' it won't never be soar; an' a red string in your ears 'll keep off feaver, everybody knows; but then I don't hold to fetchin' up a child on milk altogether; they won't never make old bones that way. I b'lieve in hearty vittles for everybody. Pie's real hearty ef ye make it good, an' so's cheese, when ye can't get butcher's meat. I b'live I could stan' it the year round on pie an' cheese an' baked beans."

"Well, ye see," pottered on Mrs. Walker, who seized a chance to begin again, "Bezy he won't hear to no reason; he claims he knows more about fetchin' up children than I do, in spite of my having had four on 'em: he speaks about mine all dyin' off, an' says he wants his'n to live—a flyin' in the face of Providence, as ye may say, for we all know folks die by the dispensations of Providence, an' mortal man can't say, 'Why do ye so?' to the Lord; but I don't know but what brother Bezy thinks he can; he sets dreadful loose to religion, 'specially doctrines an' sech; says he wishes 't Parson Pine wouldn't say such a lot about 'lection, an' hell, an' decrees, an' more about mercy and lovin'-kindness. Land! I want to know how you're goin' to fetch hardened old sinners like some ye could mention ef ye was a-min' to—an' I guess we all know who they be without namin' of 'em—inter the kingdom, ef ye couldn't scare 'em out of their seven senses, a-shakin' of 'em over the pit, as ye may say. They don't mind nothin' but a real scare, and they don't mind that no great. I feel to wonder real often why sech folks is spared to—".—From "Amandar," by ROSE TERRY COOKE, in *Harper's Magazine for September.*

QUESTIONS.

TIME—EVERY DAY.

1. What made you go into the teaching?
2. Now that you are in it, what makes you stay in it?
3. Do you teach better this year than you did last year?
4. Do you scold much?
5. Have you any "hard feelings" against any of your pupils?
6. Do you slight the poorly dressed and the unhandsome, or do you send your rain on the thankful and the thankless alike?
7. If a man, do you smoke? and if you do, do you think you ought to?
8. And still farther, do you drink—that is even moderately? And if so, do you not think that you had better have a "millstone" around your neck?
9. Do you think you exert much moral force on the pupils in your school?
10. Are you sure that, on the whole, they will be on the side of right as they grow up to be men and women?
11. Are you like that old heathen Confucius, who lived about 2,300 years ago, a student as well as a teacher?
12. Do you study upon the subject of education?
13. Who are the most marked names in education?—give five names.
14. Tell in about 100 words what were the principles of each?
15. Do you study how to teach?
16. Do you draw a line between education and reciting from memory?
17. Do you ever dare to think that much that your pupils learn is mere fashion, an outrage, because it is a waste of time?
18. Do you think you could plan out anything better?
19. Do you strive to see how much your pupils can do for themselves each day?
20. Do you ever think what faculties of mind are reached by a single study?
21. Does common sense direct all your acts?
22. Do you respect your pupils for the efforts they make to do well?
23. Do you feel that you can claim that teaching is a profession as you practise it?
24. Do you think you adorn that profession?

—*New York School Journal.*

ANSWERS TO QUERIES.

A correspondent writes sensibly as follows:

"I am anxious to read some good work on 'Mental Science.' I wish to be well informed in regard to the mental faculties, and their order of development, but I am ignorant as to what I should read. I am satisfied that a great deal of time is worse than wasted in trying to teach what the minds of pupils are not capable of grasping."

And asks for the names of some works which will aid him in acquiring the knowledge he desires. The following are the books recommended by the Education Department:

1. Educational Methods (the candidate may consult the following works: Teacher's Manual of Method and Organization, by Robert Robinson, Inspector of National Schools, Ireland; Methods of Instruction, by J. P. Wickersham, A.M., Principal of the Pennsylvania State Normal School; Currie's Common School Education; Jewell on School Government). 2. History of Education (the following works may be consulted: Essays on Educational Reformers, by Robert Henry Quick, M.A.; Practical Educationists and their Systems of Teaching, by James Leitch, Principal of the Church of Scotland Normal School, Glasgow). 3. Psychological Foundations of Education (the candidate may consult "Education as a Science," by Alexander Bain, LL.D.)

Notes and News.

ONTARIO.

We are pleased to record the appointment of Robert Whittington, Esq., B.A., late of the Collegiate Institute, London, as Head Master of the High School, Almonte. Mr. Whittington has been a zealous and successful teacher, and we wish him all happiness in his new position.

At the close of the public schools in the Town of Perth, prior to the Christmas holidays, the teachers of the County of Lanark presented H. L. Slack, Esq., M.A., Inspector of Public Schools, with a valuable silver tea and coffee service, on the occasion of his resignation of the office of Inspector, which he had filled for nearly ten years. An address accompanied the presentation, to which Mr. Slack made a suitable reply.

On Friday evening, 11th Feb., Dr. McLellan gave a very eloquent and impressive lecture on "National Education," before a large and select audience in the Music Hall, under the auspices of the Mechanics' Institute. There were many from different places outside of Watford, who made it a point to be present to hear the distinguished lecturer. Mr. Thos. White, in the absence of the President of the Mechanics' Institute, Dr. Harvey, occupied the chair with great credit to himself and pleasure to the audience. We were unfortunately late in getting there, but from what we heard, we concluded that it was a rare treat. The lecturer showed that the poor have as great a claim upon the educational institutions of the country as the wealthy, and that it will be to the interests of the latter class to see that the poor man's children are educated, as an educated community is not so much given to crime as an ignorant one, and that it is the duty of the State to provide liberally for the education of the people. He swept away with a masterly stroke all pretensions to aristocratic distinctions, especially in such a country as ours. He made special mention of those

nations where the masses were educated, showing their superiority over other nations. The Dr. has a great command of language, and an inexhaustible fund of wit and illustration. He spoke for an hour and three-quarters with unflagging interest. Such lectures are very elevating, and must result in good to a community such as Watford, as we believe we have an appreciative people. Rev. Mr. Goldie moved a vote of thanks, which was seconded by Rev. Mr. Colwell, after which the audience seemed rather reluctant to disperse.—*Watford News.*

At the Central School, Chatham, a presentation of a handsome silver cake basket was made by the pupils and ex-pupils of the school to Mr. W. H. Colles, Principal. A valuable silver-mounted ink-stand was also presented to Mr. J. C. Cluleine, assistant teacher.

The authorities of St. Michael's College (Catholic) are seeking affiliation with Toronto University. This is a step in the right direction: and now four colleges representing the Catholic, the Anglican, the Baptist and the Presbyterian churches will be affiliated with Toronto University.

At Sarnia, the Inspector reports the Public and High Schools in an improved condition.

The Listowel *Standard* (Feb. 11) tells us that School Section No. 1, Euphemia, and School Section No. 3, Plympton, are to have new brick school houses.

The *East Kent Plain-dealer* records a case of attempted "Boycotting" at the Chatham High School, directed against two coloured young men pupils, whose exclusion was desired. The *Plain-dealer* remarks that a similar attempt was made at the Chatham High School some years ago. This time, we are glad to learn, discipline and the head-master were too strong for the "Boycotter," who is suspended until the Board shall permit his return.

Additional school accommodation is urgently needed in London, Ont.

At the last High School Board meeting in Chatham, it was agreed to memorialize the Educational Department to erect it into a Collegiate Institute.

The Galt School Board have arranged to have vocal and instrumental music taught in their schools during the present year. An example worthy of imitation.

It gives us much pleasure to chronicle the appointment of Mr. Alfred Baker, M.A., to the registrarship of the University of Toronto. Mr. Baker's practical ability and uniform courtesy fit him well for his office.

Mr. A. C. Osborne, late head master of the Napanee Model School, has been lecturing on astronomy and natural history to good audiences around East Lake, Prince Edward County.

Mr. R. Matthewson, late head master of the Napanee High School, has obtained first place at a teachers' examination held in Chicago; he has obtained a position on the staff of an educational journal, also a school.

The following members of the Legislative Committee of the Provincial Teachers' Association—Messrs. James Hughes, (chairman,) R.W. Doan, S. McAllister and F. S. Spence, Toronto; J. Dearness, Inspector of Public Schools, London; D. Fotheringham, Inspector of Public Schools, Aurora; and W. Oliver, M.A., Head Master Bowmanville High School—had an interview with the Hon. Adam Crooks at the Educational Department on Monday last, to lay before him the views of the teaching profession with reference to certain educational questions. Amongst these was a superannuation fund, county model schools, and the desirability of amending the 29th clause of the School Act of 1870 as to giving power to the City Councils to decline to raise funds for providing school accommodation. The committee were very courteously received, and the interview was of a satisfactory nature.—*Globe.*

In reply to a question from the secretary of the Public School board, Chatham, the Minister of Education has stated that by the School Act of 1880, a non-resident ratepayer, provided his rate is equal to the average of the rates of residents, is entitled to free admission for his children, otherwise the trustees can fix on a fee not exceeding 50 cents per month.

The lady teachers and pupils of the Central School, London, Ont., have applied to the School Improvement Committee for a small flower garden. The matter, we are glad to learn, is under consideration.

Mr. S. Wood, M.A., of Kingston, has been appointed Classical teacher at the Stratford High School. The High School Board are fortunate in obtaining the services of this excellent scholar and successful teacher.

NOVA SCOTIA.

The Cumberland Teachers' Association was appointed to be held at Parrsboro, on the 24th and 25th ult., but unfortunately the meeting had to be postponed on account of the blocking up of the Parrsboro & Spring Hill Railway by heavy falls of snow.

Mr. L. D Robinson has been appointed Principal of the Dartmouth High School. Mr. C. W. Mackenzie succeeds Mr. Robinson in the Preparatory Department.

The trustees of the County Academy, Sydney, C.B., have in process of erection an academic edifice of an exceedingly commodious and elegant character. It is understood that an application will be made to the Legislature at its approaching session to endow the Institution on the same basis as the special academies of Yarmouth and Pictou.

Owing to the ravages of a peculiarly desperate type of diphtheria the schools of the town of Arichat have been closed for a considerable portion of the winter.

It is reported that a new building for the Victoria County Academy, at Baddeck, is to be erected during the ensuing summer.

A resolution tabled at a recent meeting of the Halifax Board of School Commissioners, suggesting a partial re-examination of teachers employed by the Board, has caused a not unnatural excitement among those whose interests it would affect if carried into execution.

NEW BRUNSWICK.

The fourth annual meeting of the Queen's County Teachers' Institute, convened in the Temperance Hall, at the Narrows, on Thursday, the 27th of January, at 10 o'clock, a.m., Mr. L. J. Flower, vice-president, in the chair. The enrolment of members having been effected under direction of the secretary, it was found that about 26 members were present. The following were nominated and elected to compose the committee of management for the ensuing year, viz.:—President, Inspector D. P. Wetmore; Vice-President, L. J. Flower; Sec.-Treas., T. Wm. Perry; T. Wesley Smith and Alfred McDonald.

After routine business, a paper on the Classification of Miscellaneous Schools, by F. H. Perkins, Gaspereaux, was read by the secretary. This was followed by a discussion.

In the afternoon there was to have been a paper on the question, How to Elevate the Profession of Teaching. This was not forthcoming, but the vice-president introduced this subject to the Institute for discussion. The following gentlemen took part in the discussion: Rev. B. Shaw, Alfred McDonald, M. C. McDonald, M.D., Robertson Gardiner, George M. Wetmore, L. J. Flower, L. W. Fowler, D. Vallis, S. J. Thorne, M. D. Brown and T. W. Smith. A paper on Penmanship was next read by M. D. Brown, Lower Jemseg.

In the evening at 7 o'clock a public meeting was held, at which, in the absence of a lecturer, the audience was entertained with speeches and singing.

On Friday morning a discussion on Penmanship occupied a short time, after which a paper on Canadian History was read by Wm. Balmain. This elicited an animated discussion. In the afternoon two papers and a practical lesson were unavoidably dropped from the programme, but there was a discussion on the subject of School Amusements. After sundry votes of thanks, and arrangements for the next annual meeting, the Institute adjourned.

The Annual Report of the Superintendent of Education, laid before the Legislature a few weeks ago, contains, in addition to the usual statistical information, much valuable matter relating to the working of the school system—the principles underlying some of its leading features—and some illustrations of modern methods of teaching.

The number of pupils at school during the year ended April 30, 1880, was 69,521—decrease since last report, 1,369. During the term ended October, 31 1880, the whole number of pupils at school was 52,742, being less by 3,951 than in the corresponding term of 1879. In explanation of this decrease, following seven or eight years of constant increase, the report says:—"It will be observed by the statistics herewith presented that the industrial depression, which for some years has taxed the resources of many school districts, compelled the closing of a considerable number of schools during the past year, and the withdrawal of many pupils from schools which were in operation. I am confident, however, that this decrease is but temporary, and that returning industrial prosperity will speedily repair any breaches that have been made. It is with much satisfaction, however, that I am able to report a greater regularity both of the time the schools were in session, and of the attendance of the pupils, than in any previous year."

The proportion of the population of the Province enrolled at school in the Summer term of 1879, was 1 in 5.04– increase 1 in every 213.58 of the population. The following counties had the highest percentage: Westmoreland (3.94), Albert (4.25), Restigouche (4.26).

The average monthly percentage of pupils daily present during the term (5 months) was for the Province 78.17—increase 4.63 per cent. There were 1,433 teachers and assistants employed during this term—increase 47. Of the whole number, 1,145 were trained, and 273 untrained; 832 continued to teach in the same districts in which they taught the previous term; 378 removed to other districts; and 207 taught for the first time. For the Winter term, ended April 30th, 1880, of the 1,310 teachers in charge of schools, 1,290 are reported in respect of the period of service as follows:—795 continued to teach in the same schools as during the previous term—increase 2; 367 took charge of other schools—decrease 6; and 128 had not taught more than three years—decrease 22.

The number of legal teaching days for the year was 227. The average time the schools were open, exclusive of holidays, vacations, and Sundays, was 213.43,—the highest average time yet reached. The advance in this particular has been steady, and is very gratifying.

Referring to the Provincial Normal School at Fredericton, the Chief Superintendent says: "From my intimate knowledge of the work of the Normal School, I am able to report with the utmost confidence that the Institution is doing most excellent service for the school system. The principal and instructors are painstaking and laborious in the discharge of duty. The increased facilities given by extending the session of the school to nine months will enable them to do more justice to the subjects of their several departments than has been possible hitherto. The discipline of the Institution is most efficient. It will be observed that Principal Croker reports that not a single instance of misconduct on the part of the students has occurred during the year."

In reference to the present system of inspection, etc., the Report says: "With the exception of a portion of District No. 5, *more real advancement in the internal work of the schools* has been made *than in any preceding year*. The Inspectors have faithfully pointed out the more important defects in school organization, and not only suggested, but, wherever practicable, have given direct personal assistance in applying suitable remedial measures. The existence of an authorized course of instruction as the basis upon which the work done in the schools is to be tested, has already proved of inestimable value to the schools of the Province. In no particular has the course been more helpful than in securing a more intelligent, economic and permanent organization of the schools." * * * * "The provision that unless a school has been in charge of the teacher for more than a term at the date of the annual inspection, it shall not be eligible for classification, is designed to remove one of the greatest hindrances to the progress of the schools. The teacher of a school which is not eligible for classification receives a Provincial grant according to his or her class of license, but does not receive any bonus for the rank of the school. A School Term seems to be the shortest period in which to judge of a teacher's work. Hitherto teachers who have taken charge of new schools every term have received the same rate of Provincial grant for their services as those who remained permanently in charge of the same school. The result has been that both teachers and trustees have come to regard the engagement or discharge of the teacher as a matter of the smallest moment. A roving spirit has characterized the great body of the teachers except in the larger towns. These frequent changes have been most wasteful and hurtful to the schools of the Province. A teacher who does not expect to remain long enough in a district to meet the matured results of his own work, will not, as a rule, discharge his obligations with that care and painstaking which characterize the labor of him who expects to reap what he sows. It requires months to become intimately acquainted with the attainments, dispositions, and capacities of the pupils of any school. Not until a teacher becomes possessed of this detailed information is he in a position to fill wisely and helpfully the office of teacher to these children. The experience of a term will enable him to adapt his instruction to the needs of his scholars in a higher degree. His classification will be better, and he will know how to call out not only the energies of the pupils, but also the helpful sympathies of the parents."

The following statements relative to the teaching of reading are suggestive: "Intelligent and natural reading has been advanced more rapidly in our schools than any other subject. The method of dealing with beginners in this branch, introduced into Quincy, Massachusetts, some three years ago, and now creating so much interest throughout the United States, has been steadily practised in our Model Schools for *nine* years past, and in the schools of Fredericton and many other of our districts. It has had no Charles Francis Adams, Jr., as patron, but wherever it has been intelligently used, and the local authorities have not deemed it their duty to encourage the 'ancient practice' instead, its results have been especially marked in producing intelligent readers, free from 'school tones.'"

MANITOBA.

On Monday afternoon, January 31st, all the teachers and scholars of the different departments of the Winnipeg Central School assembled in the principal's room, to hear from the Inspector the results of the recent promotion examinations. The Superintendent of Education, and Messrs. Mulvey & Luxton, members of the school Trustee Board, were present. The results of the examinations were highly satisfactory, and reflected great credit upon both teacher and pupils. The reading of the report was followed by the presentation of an address and a number of valuable books to Mr. P. C. McIntyre by his pupils.

Mr. McIntyre has been connected with the city school for upwards of two years, and has won the respect and regard of scholars and parents. The reading of the address drew tears from the eyes of several scholars; and Mr. McIntyre himself, while returning thanks for the presentation, was visibly affected. The various gentlemen present spoke briefly, and in a way that must have been peculiarly gratifying to Mr. McIntyre, of his ability as a teacher, and of the excellent moral tone which he had always maintained. His brother, Mr. W. A. McIntyre, now has charge of his department, and Mr. W. A. McIntyre's place is filled by Mr. E. A. Garnatt.

Mr. George Munroe has just concluded, at his native village of East Kildonan, a most successful term of five and a half years' duration as a public school teacher. Of him it may be said that no teacher in the Province of Manitoba has labored more diligently or done better work. Many of his best pupils are now pursuing a University education at one of the affiliated colleges. Mr. Munroe expects to graduate in art next spring.

The reports of examinations and literary entertainments at various schools throughout the Province, which appear in the newspapers from time to time, show that, year by year, our public schools are increasing in efficiency and importance, and the time is not distant when Manitoba will occupy a foremost place as regards her educational institutions.

The annual public meeting of Manitoba College held recently was a very successful affair. The following gentlemen took part in the proceedings: Rev. Dr. Black, Professors Bryce and Hart, and J. Robertson, United States Consul Taylor, Hon. C. P. Brown, and Messrs. D. Mackithier, S. Mulvey, and W. F. Luxton.

The following resolutions, which were passed among others, deserve a place here:—Moved by Hon. J. W. Taylor, seconded by Rev. Prof. Hart, "That the solution of that which has been a great educational difficulty in other lands, viz., the municipality of degree-conferring bodies, has been happily obtained for this Province by the establishment in its early history of a university to which all chartered colleges are or may be affiliated; that the harmony and good feeling that have characterized the proceedings of the University Council in the laying down of a curriculum and conducting examinations for the past three years, have been surprisingly noticeable; and that the hearty and loyal manner in which all the existing colleges have attached themselves to the university is full of hope for the future of sound learning and the preservation of a high standard in the distribution of academic distinctions in the Northwest." Moved by Rev. John Black, D.D., seconded by Hon. P. C. Brown, "That the existence and continued progress of Manitoba College and its sister colleges have conferred a great benefit upon the Province by obviating the necessity to a considerable extent of those desiring a higher education having to go abroad to obtain it; that the community owe a debt of gratitude to the several colleges of the Province for the unwearied efforts of their instuctors in inculcating sound views in general knowledge, as well as in the duties of public and private life; that it is for the best interests of the country that as many young men as possible should avail themselves of the facilities so liberally offered; and that the numerical increase in university and theological students in Manitoba College this year, as well as the fact that a continually increasing number is coming from different parts of the province, are features calling for special remark."

The College authorities here sold the old building and site, and are now endeavoring to secure a site in as central a part of the city as possible. The new college building, it is hoped, will be commenced in the spring. Both St. John's and Manitoba colleges are filled to their utmost capacity.

The first meeting of the Board of Protestant school trustees for Winnipeg since the annual school meeting, took place this afternoon. Mr. Stewart Mulvey was unanimously re-elected Chairman for the ensuing year. Mr. W. F. Luxton is chairman of the school management committee, Mr. J. Stewart has been re-elected Secretary-treasurer.

The appointment of Inspector of city schools has been conferred upon Mr. J. H. Stewart of this city.

The Superintendent-general of Indian affairs has just issued an order to all school teachers in the employment of the Department to the effect that if they do not hold a certificate of competency and good character from the Protestant section of the Board of Education, and unless they obtain the same previous to the 30th of June next they must be prepared to be replaced by properly qualified teachers.

Readings and Recitations.

JONES'S DREAM.

BY W. H. SMITH, COUNTY SUPERINTENDENT, BLOOMINGTON, ILL.

It was the year of grace, 1880, and on the first day of the year, Denis Duval was plodding along on horseback through the mud and mist, when he met, at the section corners, Mr. Paul Jones, a neighbor, who was mounted like himself, and the two headed their horses into the same lane, and jogged along together. Duval gave Jones a "Happy New Year" as they met, to which Jones replied in a low monotone, "The same to you," and then became silent. The splash of the horses' feet was the only sound heard for several rods, when Duval broke out:

"What's the matter, Jones? I never saw you look so tore up in my life. You're always counted the best man in the business for a joke; but you don't look much like it to-day. What's the matter? Anybody dead?"

Jones looked up, gave a kind of grim and ghastly smile, and then replied:

"No, there ain't anybody dead, but I dreamed there was; that's all," and again he was silent.

Nothing but splashing for the next eighty rods at the end of which Duval again made an attempt at conversation:

"You dreamed there was? Wh'd you dream it was?"

"Myself," said Jones, with a wink and a sly grin from under his slouched hat.

"That you were?" said Duval; and then there was silence again.

At length Jones heaved a deep sigh, straightened himself in the saddle, and spoke as follows:

"Yes, I dreamed I was dead. Didn't dream much about the dyin' part, but the first I knew I was standin' afore a gate and waitin' to get in. I waited around awhile, and nobody seemed to care; so I stepped into a kind of a little office just to one side of the gate to wait. 'Twas a nice kind of a room, not being big, and I was goin' around it, lookin' at things, while I was waitin'; and first I knew I saw a big book like a ledger, set up on a desk, or frame like. I kind o' wondered what it was, and as it was right out in the room where anybody could see it, I went up and looked at it, and as sure as I'm a sinner, there stood my account. It was headed in good style, 'Paul Jones, in account, etc.' Dr. on one side and Cr. on the other. It kind o' took me back a little to run into it so sudden, but I'd been thinkin' about it more or less all the time I'd been waitin.' Well, nobody'd come yet, so I got to looking over the account. The first statement was, 'general business account,' and I don't want to brag, but I had a pretty fair showing, take it all round. I was charged up with some things, just as I deserved to be, but in the main I confess I was pretty well pleased with the way the account looked.

"Well, then came on the 'Church and benevolent society account,' and that made a fair show, too. You see I've always had considerable to give, and I've liked to give pretty well, and so I've given a good deal one way and another, and it was all down all right. There was one or two charges though, on the other side that got me a little. For instance, there was, 'neglecting meetings,' and 'giving for personal benefit,' and 'giving for the sake of public approval.' That got me a little, but I stood that pretty well. I went on down to the 'widows and orphans' account,' which was in pretty good shape, too, and I was beginnin' to feel pretty good, when I struck 'school trustee account!' and I tell you, Duval, my heart struck the bottom of my boots like lead. You see I'd never thought about running an account with that headin' anyhow. But there it was, and I had to face it.

"Well, as soon as I got my breath, I took a look at it. I daren't tell you all there was there, but it just makes me sick now to think about it. Why the Dr. columns ran on for about six pages, and here's about the way it went:

"Item—Neglecting to keep schoolhouse in repair, on account of which George Newcomb's little girl caught cold and died, and several children suffered severely. [See testimony of Newcomb's little girl.]

"Item—Neglecting to stand by the teacher when some meddlesome people in the district tried to break up the school.

"Item—Neglecting to sustain the teacher when he attempted to coerce a few bad, big boys, who were trying to run the school.

"Item—Hiring Mehitable Parker (you see she was my wife's cousin, and had been spending the summer visitin' us), to teach the school, she being young and inexperienced, when Hiram Sansom could have been hired in her stead, he being an experienced and accomplished teacher, the change being made for the sake of saving five dollars a month.

"Item—Neglecting to visit the school and personally inspect the work of teachers and pupils.

"Item— Neglecting to confer with teacher and patrons about the interest of the school, and so on. Here it went, page after page, all charged up.

"Item—Neglecting to insist on uniformity of text-books, and so greatly crippling the school.

"Item—Allowing family quarrels in the district to interfere with and weaken the school.

"I can't give 'em all, but they made my hair staud on end when I read 'em."

"Was there nothing on the other side of the account?" put in Duval.

"Well, yes; clear on to the end there was just one item, and that was: 'Credit by balance, for serving for school director for nineteen years without pay, and subject to the growls and slanders of the whole district.'"

And the old man winked slowly with both eyes, as he looked his companion in the face. He then proceeded:

"That let up on me a little, but even that couldn't make me feel just right, and I was pretty well down in the mouth about the business, when I heard the door open, and I turned around to see who had come, and it was my little girl, who came to tell me breakfast was ready, and wish me 'a Happy New Year.' Well, I got up, ate my breakfast, but I kept thinking of my dream, and I just made up my mind that I'm going to do what I can for the rest of my natural life to make a better-looking record than that, when the time really does come that I have to face it. There's our schoolhouse now, with no foundation under it, half a dozen panes of glass out, a poor stove, cracks in the floor, the plastering off in three or four places, so that the wind blows right in; the outhouses without roofs, and their sides half torn off, and I don't know what else; and I'm on my way now to call a meeting of the board to fix things up, and if they aren't better'n than they are now inside of a week, why my name ain't Paul Jones, that's all, and if ever I hire a teacher for any reason except because he's the man for the place, it'll be because I get fooled. Good-morning."

And at the section corners they splashed away from each other at a right-angle, Jones to call the board together, and Duval to tell a reporter of Jones's dream and its results.

SMALL BEGINNINGS.

RECITATION FOR A GIRL.

A traveller through a dusty road threw acorns on the lea,
And one took root and sprouted, and grew into a tree.
Love sought its shade at evening time, to breathe its early vows;
And age was pleased, in heats of noon, to bask beneath its boughs.
The dormouse loved its dangling twigs, the birds sweet music bore;
It stood a glory in its place, a blessing evermore.

A little spring had lost its way amid the grass and fern,
A passing stranger scooped a well, where weary men might turn.

He walled it in, and hung with care a ladle at the brink;
He thought not of the deed he did, but judged that toil might drink.
He passed again, and lo! the well, by summers never dried.
Had cooled ten thousand parched tongues and saved a life beside.

A dreamer dropped a random thought; 'twas old, and yet 'twas new,
A simple fancy of the brain, yet strong in being true.
It shone upon a genial mind, and lo! its light became
A lamp of life, a beacon ray, a monitory flame;
The thought was small, its issues great, a watch-fire on the hill,
It sheds its radiance far adown, and cheers the valley still.

A nameless man amid a crowd that thronged the daily mart,
Let fall a word of hope and love, unstudied from the heart;
A whisper on the tumult thrown—a transitory breath—
It raised a brother from the dust, it saved a soul from death.
O germ! O fount! O word of love! O thought at random cast!
Ye were but little at the first, but mighty at the last.

CHARLES MACKAY.

Teachers' Associations.

The publishers of the JOURNAL will be obliged to Inspectors and Secretaries of Teachers' Associations if they will send for publication programmes of meetings to be held, and *brief* accounts of meetings held.

WATERLOO COUNTY.—The semi-annual convention of the Waterloo Teachers' Association was held in the Model School, Berlin, on the 28th and 29th ult. Mr. W. F. Chapman, President, called the meeting to order at 9.30 a.m. on the 28th, and after prayer, the minutes of previous meeting were read by Mr. Steuernagel, sec.-treasurer, and adopted. On the motion of Mr. Suddaby, H. M. of Model School, Berlin, seconded by Mr. Groh, the first hour of each afternoon session was devoted to general business. Mr. Alexander, Galt, said that in the business hour he would ask "how many teachers had agreed with their trustees respecting holidays." Mr. Marshall took up "Mathematical Geography," and gave some good ideas relating to methods of ascertaining distances on the earth's surface; computing latitude, longtitude, &c. Mr. Ballantyne illustrated his plan of teaching "Penmanship" so as to fit pupils for business work. He advocates the use of movable head-lines which prevented the pupils from copying his own imperfect writing, thus retarding improvement; occasional use of the black-board to exemplify the principles; drawing to be taught in connection with the subject; supervision of the teacher at intervals; preliminary lead-pencil writing on scribbling books, and recommended the teacher to use the pupils' pens occasionally to test their suitability. Mr Wm. Linton argued that setting copies took up too much valuable time required for supervision; also that as a teacher's successor in a school may not be able to set head lines so well the pupils would be at fault. He (Mr. Linton) though Beatty's system and copy books were best adapted for all requirements. The debate was continued by Messrs. Groh, Gray, Knowles, Winter and Marshall. Inspector Pearce bore high testimony to the efficient state of writing in Mr. Ballantyne's school, and the earnestness and silence which marked the pupil's performance of that lesson. After some further remarks on the subject from Messrs. Alexander, Herner and Gray, the session adjourned till 2 p.m. At general business in the afternoon Mr. Alexander put his question, stating that, if on engagement the teacher made no proviso respecting holidays, the trustees could curtail the time by two or three weeks if they wished. On investigation it appeared that all the teachers present were entitled to the maximum amount of vacation. The treasurer (Mr. Steuernagel) read his report by which it appeared that there was a balance of $44.10 to credit of association. On the motion of Mr. Herner, seconded by Mr. Groh, Mr. C.B. Linton was unanimously elected delegate to Provincial Association. Miss Hutchinson read a very practical essay on "Conduct and Discipline in Schools," for which on the proposition of Mr. C. B. Linton, seconded by Mr. Knowles, she received the warm thanks of the association Mr. Alexander, H. M. Galt Model School, in taking up the subject of "Spelling Reform," said that his own dreams were that when the metric system is adopted, and some old fashioned ideas are consigned to oblivion, that words will be spelled as they are pronounced. He reviewed the history of the spelling reform movement since its inception, and entered into the changes which were suggested in the alphabet together with the new letters that represented the different sounds. He thought that from the beginning of a child's education in reading, all logical faculties were crushed down by teaching them the different sounds the same combination of letters will make. Phonetic teaching means rapid advancement as shown by the progress of schools in Malta where Italian reading is learned in 945 school hours, while the same proficiency in English takes 2,320 hours, because Italian is a phonetic orthography. The spelling reform has been pooh-poohed and ridiculed but it is making its way, and is now recognized by many of the foremost writers in educational literature. In the discussion which followed, Mr. Herner said that in the Boston primary school books, the letters not sounded are printed in fine hair line type, and the scholars made as much progress in one year in reading as other schools in two. He was opposed to the spelling reform and ridiculed some of the changes. The movement was also combated by Messrs. Morrison, Bingeman, Knowles and McIntyre. Mr. B. Hal Brown would agree to the reform if the several sounds were represented by distinctive characters. Mr. Alexander ably replied to the objections. Mr. Knowles spoke for a short time in opening a discussion on "Whether the Minister of Education should acquire (or control) copyright of all text-books. A desultory debate ensued, joined in by Messrs. Alexander, Conner, and C. B. Linton." At 7.30 p.m. a large audience assembled in the same room to listen to a debate on the subject "Are Township Boards Desirable." The chair was ably filled by the president, Mr. W. F. Chapman The affirmative was maintained by Messrs Marshall and Alexander, and the negative by Messrs. Hilliard and Bingeman, each side performing prodigies of valor in the war of words. The utmost good humor prevailed, and the intervals in the combat were filled in with vocal music as follows:—Duet by Messrs Groh and C. B. Linton; duet by Minnie Young and Melvina Klipperet—children about nine years of age, whose admirable singing provoked rapturous applause and an encore; Quartette by the Misses Zeigler, Messrs. Winter and Chapman, encored; duet by Miss Zeigler and Mr. Winter, encored; duet by Miss Zeigler and Miss Weaver; quartette by Miss Weaver, Miss Babcock, Mr. Gray and Mr. Chapman. After a cordial vote of thanks to Mr Suddaby for the use of the organ, and to the ladies for their appreciated aid in the entertainment, the proceedings were closed by singing the National Anthem.

Second day —At 9.30 a.m. Mr. A. H. Clemmer gave a brief exposition of his method of teaching "Reading—2nd part of 1st book." His plans which were very practical were well criticised by Messrs. W. S. Brown, S. Herner and W. Linton. Mr. A. F Cull read a well compiled essay on "How to teach composition." In the discussion which ensued, Mr. Groh said he would connect the subject with object lessons, in which Mr. Alexander agreed. A lively debate followed, sustained by Messrs. Gray, Suddaby, C. B Linton, W. Linton, Breitner, Knowles, Erb, and the President, and several practical ideas were elicited. Mr. C B. Linton read a paper on the "Superannuation Question," and moved the following resolutions, which were seconded by Mr. Alexander, and carried *seriatim*. (1.) That the annual fee be not less than $5; optional between $5 and $10. (2.) That the pension should be in proportion to the amount paid in as well as to the years of service, irrespective of grade of certificate. (3.) That no refund be paid to any teacher whose time of service falls short of ten years. (4) That no teacher be entitled to a pension who has taught for a shorter period than 15 years. (5.) That every public school teacher be entitled to claim the benefit of the fund when he shall have reached the age of 55 years, provided he has not taught less than 15 years; or after having taught 30 years, irrespective of what age such teacher shall then be. (6.) That provision be made for teachers' widows and orphans, beyond the simple amount paid in, with interest at 7 per cent. (7.) That candidates be charged when being examined, and a certain refund be made to those who have been successful; and that the whole or part of such money be paid into the fund; but such only to pay for 3rd, 2nd and 1st class certificates without paying for the grades in such classes As an amendment, Mr. Groh moved and Mr. Knowles seconded. "That the superanuation fund be made optional, as it was prior to 1871." The amendment was lost, and the original motion having been put was carried. It was ordered that a copy of the above resolutions be sent to the Minister of Education, and also to the M. P. P's. of Waterloo local session. Mr. Suddaby, on the part of the Committee on Promotion Examinations, read their report, which was adopted; the report of the auditors was also adopted. In the afternoon the managing committee handed in a programme of business for next convention. The nomination committee also gave in their report as follows, which was adopted:—President, Mr. S. S. Herner; Vice-President, Mr. B. Hal Brown; Sec-Treasurer, Mr. Charles B. Winter: Executive Committee, Miss A. C. Young, Miss Coutts, Messrs. C. B. Linton, S. Eby and D. K. Erb. Mr. A. H. Morrison, of Galt, read a carefully prepared essay on "The Beauty, Use and Abuse of Words" which reflected the highest credit on his literary culture, and elicited the warmest commendation of the members by whom it was much appreciated. Mr. Suddaby then took up his subject "How to make the Provincial Association Representative" Owing to lack of time and the importance of the subject, it was decided to pospone discussion on it until next convention. After disposing of some formal business the association adjourned to meet again on the 9th of September next.

GLENGARRY.—A very successful meeting of the Glengarry Teachers' Association was held at Alexandria, on 3rd and 4th February. The President of the Association, D. McDiarmid, I.P.S., being in the chair About seventy teachers were present from different parts of the county; and from the interest taken in the proceedings, and the careful and able papers contributed by the members upon subjects connected with the teaching profession, we infer that substantial benefit was derived from the last meeting. The following officers were elected for the present year:—D. McDiarmid, M.D., I.P.S., President and Treasurer; Alex. Kennedy, H M. Model School, Vice-President; W. D. Johnston, B.A., M.M., A.H.S., Secretary; W. D. Johnston, D J. Hunter, Auditors; J. D Houston, R. Seldon, W. McLaren, D. D. McDonald, and A. B McDonald, Directors.

A number of resolutions were passed with respect to certain educational questions submitted by the Provincial Teachers' Association.

1.—That the teaching limit be reduced to 25 years of service, or that the age of 50 may be taken instead of 60 years, to enable a subscriber to share in the Superannuation Fund.

2.—That, in our opinion, the Model Schools of this Province are doing a good work, and should be sustained as they are at present.

3.—That School Boards should have the same power they formerly possessed in providing school accommodation.

4.—That we are not in favor of allowing special grants to Collegiate Institutes, as we think such allowance to be an unjust discrimination against the smaller High Schools.

5.—That there no longer exists any necessity for such an institution as Upper Canada College, inasmuch as the work done there can be performed just as efficiently by the High Schools and Collegiate Institutes of this Province.

Interesting and instructive papers were read by the following members of the Association:—Dr. McDiarmid, "How to teach parts I. and II. (Limit Table);" W. McLaren, "Senior Grammar;" W. D. Johnston, "Book Keeping;" J. D. Houston, "Junior English Grammar;" Mr. McEwan, "Inorganic Chemistry;" D. J. Hunter, "Analysis."

The proceedings were varied by some amusing readings by Mr. Johnston, and lively discussions among the members concerning points brought out in the different papers read at the meeting.

After the appointment of several gentlemen to act as delegates at the next annual meeting af the Provincial Teachers' Association, to be held in Toronto, the meeting adjourned until September next.

W. D. Johnston, Secretary.

East Lambton.—Watford being the most central place, and otherwise desirable, our town has again been favored with the meeting of the above Association. The meeting held last Thursday and Friday, 10th and 11th instant, was the seventh in the regular order. Through the kindness of the Trustees of the Methodist Church here, the Association met in their place of worship C. A. Barnes, Esq., Inspector, was chosen chairman of the Association. Mr. P. Dewar, gave a treatise on "Addition of Fractions," and Mr. Stirritt, on "Composition." Both subjects were well handled, and considerably criticised. Messrs. T. White and D. D. Moshier, were appointed Auditors for the Association. This closed the first session.

In the afternoon, or second session, the number was much larger than in the forenoon, as there was quite a large addition of teachers and visitors. The following officers were chosen for the ensuing year: President, C. A. Barnes, I P.S.; Vice-President, T. White, Watford, and John Pierce, Forest, Amidst considerable applause, Dr. McLellan then took the stand, and for nearly two hours demonstrated the subject of algebra. The Dr. is quite at home on this subject, and is evidently popular with the teachers. Mr. Moshier of Wyoming, showed himself an expert in that particular department. A large number of the teachers took part in the discussion of the subject Mr. Ferguson of Forest, took charge of Mr. White's fourth class, and taught a lesson on literature. There was a very interesting discussion on the subject afterwards.

Association met again on Friday, and the subject of monthly examinations was first taken up Many took a lively interest in the discussion of this theme, and seemed to be of the opinion that it is an excellent plan to bring up the school to an equal standard, and stimulating to the pupils. The time and place of holding the next meeting of the Association were next considered, and each place suggested had its friends, so that some time was spent in discussing the subject, but after considerable exciting talk, Watford was again fixed upon as the favored place for the next meeting, by a large majority, and the first week in September the time. Dr. McLellan was next called upon to teach the subject of "Elementary Arithmetic." The Dr.'s method is novel and striking, not at all old fogyish.

The Auditors' report was read and adopted. At the afternoon session the subject of "Map Drawing" was first in order, by D. D. Moshier, followed by "Square Measure," by S. Roulston The subjects were handled well by both gentleman, and elicited considerable discussion. Votes were passed to Dr. McLellan and to the people of Watford. The Dr. urged upon the teachers to exert themselves and to show more and more earnestness and zeal in their work. The meeting was considered a very successful one throughout.

REVIEWS.

Messrs. Ginn & Heath have sent us three additional volumes of Hudson's series of Shakespeare's plays, namely, Henry IV., Part Second, Henry V., and Henry VIII. We notice that Professor Hudson adopts Spedding's view, that a very large part of the last-mentioned play, including the famous speech beginning "Farewell, a long farewell to all my greatness," was written by Fletcher. Every succeeding volume of this series increases our estimate of its value.

The same firm have also sent us a well-printed octavo volume containing Cicero's De Natura Deorum, edited by Austin Stickney. Of its 344 pages, 21 are occupied by the introduction, 147 by the text and the English summaries prefixed to the different books, 155 by the notes, and 19 by an appendix and an index. It is a scholarly piece of work, well-calculated to be of service to both the young and the advanced student.

First German Book. After the Natural or Pestalozzian Method. For Schools and Home Instruction Chautauqua Language Series. By Jas. H. Worman, A.M., author of a Series for the Modern Languages, etc., and Professor in the Adelphi Academy, Brooklyn, N.Y. Pp. 63, 8vo. A. S. Barnes & Co., New York and Chicago. In this charming text-book the German "language is taught by direct appeal to illustrations of the objects mentioned." It contains a large number of wood-cuts, and the letter-press on each page consists of a series of simple questions, answers and statements about the subject of the cut or cuts on it or the preceding page. We should imagine that in the hands of a competent teacher this book would be exceedingly useful in stimulating the interest, and thereby expediting the progress of pupils.

National Kindergarten Songs and Plays. *Henry A. Young & Co., 13 Bromfield str-et, Boston.* These are written and compiled by Mrs. Louise Pollock, principal of the Kindergarten Institute in Washington. They may be used in the primary departments of Public Schools, and are classed under the following heads: opening and closing, marching, gymnastic, playing, conversational and moral songs. The playing songs apply to the "ball" games, trades, and arm, hand and finger plays. The book is a valuable addition to the list of school music books.

The Orthoepist. *D. Appleton & Co., New York.* It has often been a matter of surprise to us that, while so much attention is properly given to speaking grammatically, so little is given to speaking with a correct pronunciation. Good English may be violated as much in the one way as in the other. The Orthoepist contains the words liable to be mispronounced, and gives the correct pronunciation according to the best standards. The book is an excellent one, which is likely to do more for the cause of good speech by directing attention to common errors than any work with which we are acquainted.

MAGAZINES.

The March number of the Atlantic Monthly begins with three chapters of Elizabeth Stuart Phelps's story, "Friends, a Duet." This is followed by "The Story of a Great Monopoly," an account of the doings of the Standard Oil Company of Pennsylvania The poetical contributions are by Rose Terry Cooke, Francis L. Mace, Maurice Thompson, and Oliver Wendell Holmes. Henry James, Jr., continues "The Portrait of a Lady," and the views of his brother, Dr. William James, on the "Genesis of Genius," are controverted by Professor Grant Allen in an article of great merit William M. Rossetti discourses about the wives of Spenser, Shakespeare, Dorine, Milton, Dryden and Blake. Theodore Bacon contributes a eulogy of President Hayes under the title "The End of the War." Richard Grant White furnishes "Random Recollections of England," and Katharine Carrington a short complete story of considerable power called "The Eleventh Hour." The remaining contents are, "New York Theatres," "Recent French and German Essays," "War-ships and Navies," "Tennyson's New Volume and other Poetry," "Challoner's History of Music," "The Contributors' Club," and "Books of the Month." A varied and excellent number.

Appletons' Journal. The *Literary World* says "*Appleton's Journal* has of late been turned largely to account as a vehicle for the cream of the English periodicals. There is no better reading to be had in the English language than much of that which it thus contains; and the form in which it gives it is more dignified and attractive than that of the ordinary eclectic reprint. Together with these special attractions it continues to present original articles of positive value, and the editorial departments show some of the strongest and best writing to be found in American journalism." The March number justifies the praise given in this quotation. "Scotch Orthodoxy and Modern Thought," "Ophelia," "George Eliot," and "Geists' Grave," a poem by Matthew Arnold, will be its most interesting articles for teachers.

Scribner's Monthly, March. The literary merit of this number is fully up to its usual standard, and the illustrations rather better than usual. "In London with Dickens," "Charles and Mary Lamb," "Striped Bass," "Peter the Great," "Glimpses of Parisian Art," "John Singleton Copley, R.A.," are richly illustrated, as they would be in no other magazine. Besides these articles there are several others of high excellence. "A Fair Barbarian," by Mrs. F. Hodgson Burnett, continues to grow more attractive to the men, and more "shocking" to the ladies of Slowbridge. The publishers offer the three numbers through which this interesting story runs, February, March and April, for one dollar.

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ALMONTE, Feb. 1, 1881.
My opinion of the EXAMINER is embodied in my subscription. I have also shown and recommended it to my colleagues.
R. WHITTINGTON, B.A.,
H. M. Almonte High School.

I wish you success with regard to it, and only hope that each number may contain as much practical usefulness as the first. Yours truly,
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UXBRIDGE, Feb. 12th, 1881.
W. J. GAGE & Co.,—The *School Examiner and Monthly Review* to hand (No. 1). An excellent periodical. The examination papers alone worth the price. Put me down for a subscriber.
Yours, etc., JAS. J. MAGEE, M.A.,
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LOBO, February 15, 1881.
Messrs. W. J. Gage & Co., Toronto:
DEAR SIRS,—Have examined your *School Examiner and Monthly Review*, and find it to be a help greatly desired by many teachers. Please accept my subscription as an endorsement to this. Yours respectfully,
W. H. BRADLEY.

* * Its pages, in the number before us, are bright and clear, and show a new departure in class publications by combining instruction and amusement, thus relieving it of the heavy, sombre character, too many of these publications possess. From the programme mapped out in the introductory chapter, we should say it will become a most useful adjunct to teachers.—*Evening Journal*, St. Catharines.

SARNIA, February, 1881.
I beg to thank you for sample copy of *The School Examiner and Monthly Review*, with which I am much pleased. The form and general appearance of the periodical are all that can be desired, and highly creditable to your enterprising firm. The *idea* is especially praiseworthy, as the publication meets a want long and keenly felt by the teachers of the Province, and if fully and properly carried out, cannot fail to be a very great boon to them, and I hope that the venture will meet with the encouragement and support that it deserves.
W. SINCLAIR, B.A., H.M. H. School.

Editor of School Examiner and Monthly Review:
DEAR SIR,—I am quite well pleased with the sample number you mailed me at Sombra. The examination questions are just what we wanted. I do not consider myself competent to set papers to test the proficiency of my classes, from the fact that the questions will partake of the same complexion as my teaching. Yours do not, and are not only a test but also a guide to teacher, and pupils too Were I to presume to offer a suggestion, it would be that the relative value of each question be given in the margin as in the real examination papers, and corresponding thereto in amount, or else amounting to 100, so the marks got would be the percentage obtained. I have taken the CANADA SCHOOL JOURNAL for some time, and if the *Examiner* does as well in its peculiar sphere as its predecessor has in its, the venture will not be in vain. Yours truly,
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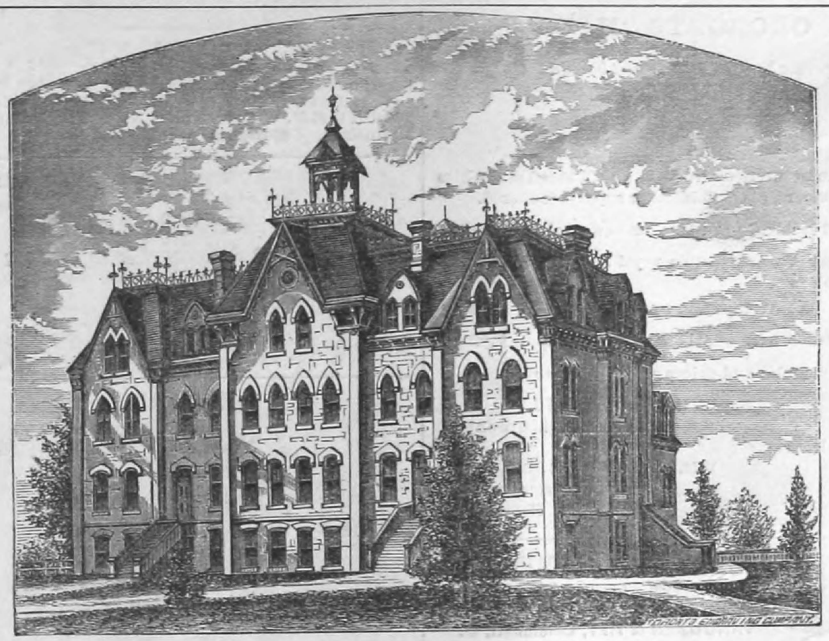

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VOL. VI. TORONTO, APRIL, 1881. No. 47.

The Canada School Journal

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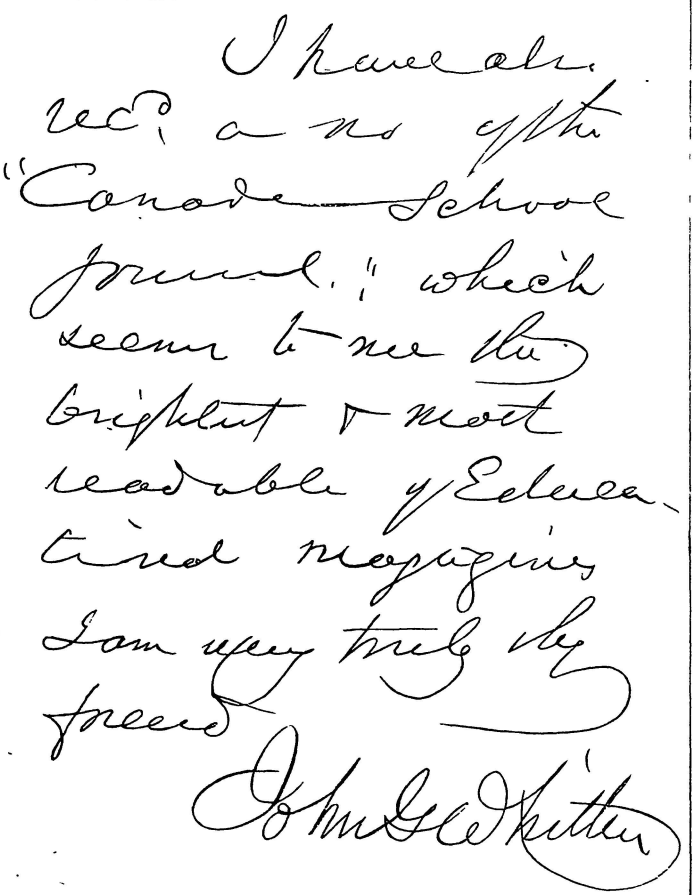
Recommended by the Council of Public Instruction, Quebec.
Recommended by Chief Superintendent of Education, New Brunswick.
Recommended by Chief Superintendent of Education, Nova Scotia.
Recommended by Chief Superintendent of Education, British Columbia.
Recommended by Chief Superintendent of Education, Manitoba.

The Publishers frequently receive letters from their friends complaining of the non-receipt of the JOURNAL. In explanation they would state, as subscriptions are necessarily payable in advance, the mailing clerks have instructions to discontinue the paper when a subscription expires. The clerks are, of course, unable to make any distinction in a list containing names from all parts of the United States and Canada.

—The name of John Greenleaf Whittier stands deservedly in the foremost place among the Poets of America and of the world. In a letter addressed by him to the Rev. C. P. Mulvany, on the staff of this journal, and of whose poems, "Lyrics of History and Life," he speaks in high terms of approval, Mr. Whittier adds :—


I have also received a no. of the "Canada School Journal," which seems to me the brightest & most readable of Educational magazines. I am very truly thy friend
John G. Whittier

We are pleased to inform our readers that our efforts to give them a first-class journal are appreciated abroad as well as at home. We clip the following from the *Central School Journal* as another specimen of the kindly things said about us:

"No one of the monthlies is more welcome than the *Canada School Journal.* We recognize at a glance that it is non-American, but this is no barrier to its hearty endorsement. It is unsurpassed in its clearness and brevity of pedagogic definitions and rules, and many of its articles, such as those from the pen of Hon. James Hughes, have become a standard to the educational profession."

—Subscribers will please notice that the date of expiration of subscription is shown on the address, thus: "John Smith, Hamilton, April, 81," indicates that the subscription expires with April No. As we discontinue the mailing of the JOURNAL on the expiration of subscription, our friends will please renew promptly.

THE JOURNAL AND ASSOCIATIONS.

We are glad to acknowledge during the past month the receipt of a letter from the Secretary of the Stormont Teachers' Association, reporting the adoption of the JOURNAL by the Association. The Association in Mr. Switzer's district also decided that each member of the Association shall have a copy of the JOURNAL. From all parts of the Province we are in receipt of reports which go to show that the most practical way of providing a good library for teachers is to present each member with the CANADA SCHOOL JOURNAL on payment of a small fee. Inspector McKinnon, of Peel, informs us that the plan has produced good results in his county, by causing teachers to take an increased interest in the Association. Inspector McIntosh, of North Hastings, says: "The CANADA SCHOOL JOURNAL is making constant advancement."

As a means of increasing the interest in Teachers' Associations, and rendering the work done at them more useful to all who attend them, we hold that nothing can accomplish so much good as placing a well-conducted professional journal in the hands of every teacher. The subjects introduced at the semi-annual meetings should then be based on some of the articles which have appeared in the JOURNAL, and in this way every teacher will be able to understand and intelligently take part in the discussions. We will be glad to receive suggestions from our friends in the numerous counties in which the JOURNAL is sent to every member of the Association, as to subjects which they would like treated in its columns, with a view of making it of the greatest amount of practical use.

THE EDUCATION DEPOSITORY.

For many years past the Government have maintained in the Departmental buildings, in the Normal School square, a

Depository with two distinct branches, one for books and the other for maps and apparatus. Public opinion has been found so strongly arrayed against this institution, that the Minister of Education has wisely resolved to abolish it, and a few weeks ago he publicly announced this intention on the floor of Parliament. It is necessary, however, for the Government to bear in mind that popular dissatisfaction with the Depository has not been solely due to the fact that its existence was an undue interference with private business enterprise. The chief cause of the notorious want of public confidence in the institution has been a suspicion that those in charge of it have been systematically making money out of their position over and above their legitimate salaries. In fact, it is not a matter of suspicion at all, for the Public Accounts for many years past show that large annual payments have been made to Dr. May, who has charge of the Depository, for map-making, map-coloring, etc., while it is well known that there has not been in existence any check upon his receipts in the shape of competition by tender. From evidence given last session, before the Public Accounts Committee, by Dr. May and Mr. Carter, who has for years had a monopoly of map-mounting, without competition, for the Depository, it is quite clear that a state of affairs has been in existence which calls for a searching investigation before the Depository is wound up. In the course of his testimony, Dr. May admitted that he was the chief capitalist in the "Canadian School Apparatus Co.," of which his son was manager; that Mr. Carter was at his instance taken in as a member of that Company without capital; that the Company manufactured chemical cabinets, blackboard-brushes, models, etc., which found their way into the Depository through the medium of Elliott & Co., and others, who acted as agents, and that some months ago the stock of the Company was sold out by Dr. May to Mr. Carter at twenty-five cents on the dollar, on the understanding that Mr. Carter was to sell it to the Depository and repay Dr. May out of the proceeds. Either Mr. Carter must have been a very nominal member of the "Canadian School Apparatus Co." or that Company must have been a myth, for he stated in his evidence that he was not a member of it at all—flatly contradicting Dr. May on a point of considerable importance.

It is very much to be regretted that no more evidence was taken by the Public Accounts Committee, for this was the only valuable glimpse the public have ever obtained of the way in which things have been managed in the Government establishment. It is quite clear that Dr. May should not be permitted to proceed with the winding up of the Depository, unless he can satisfactorily explain away some of the admissions he himself has made—admissions which go a long way towards confirming the worst suspicions the public ever entertained in connection with the Depository. Since the Legislature has been prorogued, it has been currently stated in the daily press that the Minister of Education has wisely determined to issue a commission to investigate the "management of the Depository," and that the investigation would be undertaken at once. If this statement is correct, the public will be glad to have it confirmed by the immediate appointment of a thoroughly competent commissioner authorized to take evidence on oath. Nothing short of this will now satisfy the public, and nothing less should satisfy Dr. May or the Government themselves.

MINOR MORALS AT SCHOOL.

The spirit of the age, on this continent at least, is before all things zealous for equality. There is an impatience of authority which expresses itself in WALT WHITMAN'S denunciation of all political systems which make the ruler of more account than the citizen. But equality, if developed beyond its simplest condition, in a state of savage life, must require a limitation of itself in every respect which, as Bentham expressed it, trenches on the rights of others. Especially is this the case in the maintenance of that social recognition of the rights of others which we call politeness. If liberal institutions are the programme of our national happiness in the future, it must be by a process of "levelling up," not of "levelling down." All labor will be honorable when no laborer is a boor. In order to conduce to this, the school should be a training place for what are called "the minor morals," but which have far more than a minor relation to individual and national happiness. By a scrupulous attention to this, much friction will be avoided, and the position of the teacher strengthened.

CHANGE OF BASE.

We are pleased to find that the condemnation expressed by us, and our numerous correspondents, concerning the unprofessional conduct of the Principal of the Hamilton Collegiate Institute, in issuing a magazine with the view of puffing his school, has led to a change, nominally at least, in the management of the paper referred to. It appears with the name of a new publisher, and a different business manager. We are glad to note the change, and are only sorry that we cannot assure the High School Masters of the Province that the change will free them from the ungenerous treatment they have received in the past. We regret to see indications in the magazine which clearly point to the conclusion that its management and aim are in no sense really altered. The hero of "repudiated scholarship" fame is now recognizable by his fellow-teachers even when his name does not appear.

—As we go to press we are in receipt of a communication from Mr. Inspector Marling, relating to the article in the March number of the JOURNAL respecting his report to the Education Department for 1880. It will appear in our next issue.

—A just condemnation of an attempt by penny-wise and pound-foolish economists at Swansea, to cut down the teachers,

salaries, is thus condensed by the *School Guardian* (England):—"An attempt has been made at Swansea to reduce the salaries of teachers. We cannot too much press upon managers that this is the last resource to which, in their struggle for economy, they should betake themselves. They who know anything of the efforts of those who worked for education, say thirty years ago, are aware that the great exertion of the time was to raise the status of the teacher, and to make it worth the while of a better class of men and women to engage in the work of Education. This, too, was the object of the historical Minutes of August and November, 1846. From that time the aims of all our Committees, and Commissions, and Training Colleges, has been to raise the teacher. It is a necessary accompaniment of such a change for the better, that he should be better paid. We must have good teachers, and, if we are to have good teachers, we must pay fair salaries. In this, as in other things, the laborer is worthy of his hire."

—A Mr. James Bullock, Head-Master of the St. James-the-Less School, Westminster, adopted the following strange method of teaching the gospel:—

At the Westminster Police Court, on Wednesday last, Thomas Bullock, head-master of the St. James-the-Less (Westminster National Schools, appeared before Mr. Partridge on a summons charging him with assaulting a boy named Frederick Teasdale, eight years of age. The complainant deposed that he was one of the scholars at the school, and on the 27th ult. the defendant violently boxed his ears, blackened his eye by the force of the blows, and bruised his face, because he was unable to answer some questions in his Scripture lesson. In cross-examination by Mr. Dutton the boy denied that he was playing or looking about before his ears were boxed. He was quite sure that he did not cause the injuries by knocking his face against a slate. The punishment of the school was caning on the hand and boxing of the ears. Two of the complainant's schoolfellows corroborated this evidence, one of the boys stating that the defendant gave complainant as many as ten knocks on the head and ears. Mr. Teasdale, the father of the complainant, stated that, finding that his son had been knocked about by the schoolmaster, he at once took the lad to Dr. Pearce, the divisional surgeon of the B division of police. Dr. Pearce gave the following certificate:—"October 27. This is to certify that, having examined Frederick Teasdale, aged eight years, I find that the whole of the left ear and side of the face is very much bruised and discolored, and the boy is very unwell in consequence." A postscript was added to the certificate, dated November 1: "The marks of contusion are still visible, and the boy has not properly recovered.—G. PEARCE, M.D."

We are glad to be able to state that this man, who violated so grossly the rules of the Scriptures he was teaching, wa fined 40s. and costs.

—The following opinion of Dr. Boulton, in the *Medical Record* (London), will have interest for those who study the conditions of school hygiene:

In a communication on the Physical Development of Children, Dr. Boulton, in the *London Medical Record*, states his conclusions from observations, not on single individuals, but from repeated ones on the same, extending over ten years, that different healthy children grow at different rates, and that in average English children, brought up under favourable circumstances, the rate is two to three inches per year—a growth of more or less than this should excite apprehension. The healthy child, that grows regularly two inches per year, becomes a short-statured adult, whilst the rate of three inches per year indicates a tall adult. Whatever the rate of growth, he affirms that weight for height should be in each case identically the same; and all healthy children should grow broad in proportion to their height. Between 3 and 4 feet, the increase in weight should be 2 lb. per inch; and between 4 and 5 feet, 2½ lb. per inch. And further, the average weight at 3 ft. is 2 st. 8 lb.; at 4 ft., 4 st. 4 lb.; and at 5 ft., 6 st. 6 lb. These weights may be exceeded slightly within healthy limits, but the author gives 7 lb. below these averages as the margin of safety; below that limit the children are ill-developed, and readily succumb to constitutional diseases.

—The London *Free Press* of March 3rd, has an able article criticising the attack on Mr. Crooks in the Ontario Legislature. The *Free Press* considers that Mr. Crooks was weak in his defence of the University appointments, but strong in vindicating his management of the Public and High Schools of the Province. This was of course by far the most important point at issue, the University appointments question being what Carlyle calls "an extinct Satan." We quote, with approval, our contemporary's remarks:—

"In fact, Mr. Lauder and those gentlemen who join with him here, laid themselves open to the charge flung in their face by Ministerial supporters, that they are ignorant of the questions which they undertake to discuss. They will find no man who understands the subject thoroughly, who will agree with them, that most of the changes introduced are not improvements. The true facts are just the reverse. If there has been progress made since 1871, and we believe there are few intelligent men who will care to question it, then to *the better system of inspection* that now prevails must much, yea most, of this improvement be ascribed."

—The *Chatham Tribune* has a leader on State Support to all but primary Education, which, again, it would restrict to the three R's. It avows that "the project of disendowing Upper Canada College is only part of the larger project of disendowing all schools and colleges, except the primary schools." Precisely so; and this movement is only a Canadian wave of the tidal wave against public Education which has lately swept over the States, a movement which was essentially supported by the rich Philistines who grudged paying for the education of the poor. It is directed against secondary education and the High Schools and Colleges, but its next object of attack will be the public schools of the country. This is a "poor man's question." Our contemporary lauds the Bobcaygeon *Independent* as "an outspoken journal, which cares not who it hits." And whom does it hit when it attacks High Schools? The poor man and his children.

—*Tom Sawyer* was no work of creative genius, but it was amusing and fresh. It was calculated to remind us all, especially those engaged in teaching, of the large part of boy-life that lies outside School and even Home, and of the genuine "good" in the midst of "things evil," such as idle habits, slang, or irreverence. But the "bad boy" has been sadly overworked: his diary, his doings, his scrapes and his dialect are all the very worst reading that could be put before the youth of a generation not too remarkable for reverence, courtesy, sacred things and reputable ways. Besides, the "Bad Boy" is not only "bad" but stupid; let us have no more records of the habits and toilet mysteries of tramps, in glorification of the juvenile dunce and rough.

—We commend to the friends of Education throughout Canada the example of Mr. Alderman Hallam, of Toronto, in offering two medals for the best answering in Canadian History and Geography. Pericles, in the one speech preserved to history, has said that every good citizen should form an intelligent opinion on every great question which concerned his country. The best preparation for this is surely the fostering of a patriotic spirit in our schools, and the way to insure this is not to indoctrinate our youth with Canadian spread-eagleism, but to give a clear idea of the past history and present condition of the land of their inheritance. A few lessons in the elements of political economy and the philosophy of law might be added, if not in a text-book, at least as chapters in our Public School readers.

—The moral hygiene of our schools needs a protest against two evils which affect the health and mental vigour of so many, not only among the scholars but the teachers, of both sexes: we allude to precocious tobacco-smoking, and late hours kept by girls at dancing parties, before the constitution is sufficiently matured to stand the effort at turning day into night. Smoking may be an open question with adults; when used by younger persons it acts as a dangerous narcotic poison, arresting growth, and causing paralysis and other terrible nervous diseases. Not less injurious is the indulgence in dissipation, which is so often the cause of the "sickness" which hinders young ladies from attending to their studies or their duties.

—The Duke of Argyll, in the March *Contemporary*, argues that the condition of certain savage tribes, far from being the lowest step in that evolution of human nature which constitutes progress, are really an evolution in a wrong direction, and lead to conditions lower than those of the brutes. In certain evil tendencies, the brute nature has certain limitations, those of instinct, which retain the beast of prey within their control. But man's will is *free, i. e.*, free from those limitations. Ferocity in savage races may develop itself into a destroying force, such as that which destroyed the maize-growing civilization of prehistoric America, and within the last four centuries the agricultural civilization which Cartier found in Indian Hochelaga.

—A Conference, held at Manchester, England, has called attention to the increasing practice of smoking among boys. It was urged, in the comments made by the *Educational Times* on the subject, that there is no force in the objection that it is useless for teachers who smoked to put down smoking with boys. "The difference of age makes all the difference. A crusade against the use of tobacco by teachers would be Quixotic." And common sense will show that nature itself allows the indulgence of pleasures to the mature organism which are highy unfavorable to the health of the immature. Under the head of Practical Ethics for Schools, there is need of clear teaching as to the evils from use of tobacco by boys, arrest of growth, nervous disease and paralysis. With men smoking is a social habit; with boys it is illicit, a vice, and one likely to be combined with drinking.

—One of the great advantages of Mathematics as a means of education is the fact that in the study of that subject it is absolutely necessary for the pupil to do the work in most part by his own effort. A feeling of the importance of History and of Literature is growing amongst educationists. But in order to make them as invigorating as mathematical studies, it is surely necessary that they should be so taught as to make the student think and work for himself. Mere manuals of literature cannot begin to do this, neither can worn-out methods of teaching History, which, as Carlyle lamented in his own school days, merely fill the mind "with dates and dead vocables."

—The *Globe* of March 1st does well in praising the father of an insubordinate boy at St. Mary's, who, on investigating a complaint urged against a teacher, found it without foundation, and punished his son for the deceit. Parents should consider, when they hear a complaint of a teacher from their child, how very difficult it is, even when no deceit is intended, for a child to take a just or accurate view of the relation between himself and the administrator of school discipline, how much that difficulty is increased by the comments and sympathies of other children, and how fatally it is sure to be perverted into falsehood if the parent shows a disposition to side against the teacher.

—The following letter, addressed to the London *Times*, is a significant comment on the policy which refused educational facilities to the "Nonconformists" to the State Church of England:—

On the subject of "Nonconformists and the Senior Wranglership," Mr. J. Carvell Williams writes to the *Times* as follows:—'After the passing of the University Tests Abolition Act, a well-known member of the University of Oxford said to me: 'The best thing you can now do is to get Nonconformists to send up their most promising young men to the Universities; and, if I may judge from the results, Nonconformists appear to have been of the same opinion. For this year, as last year, the Senior Wrangler at Cambridge is a Nonconformist. The second in the Mathematical Tripos list is also, I am told, of Nonconformist origin; and the third is the son of a Nonconformist minister. Another Nonconformist stands tenth on the list. This, sir, is the fourteenth time in twenty-one years that the Senior Wrangler has been a Nonconformist—a surprising fact, considering that a large majority of the undergraduates at Cambridge are members of the Church of England. It shows what Nonconformists lost by the ecclesiastical restrictions of past times, and, inferentially, what the nation probably lost also.'"

—Some of our English Educational exchanges are much exercised at the possible consequences of the high positions young lady students are taking at the Cambridge examinations. What will happen should the unspeakably awful event come to pass that a woman "shall beat the Senior Wrangler or Senior Classic, shall any such dignity survive"? Well! even for this, as for other developments of progress, Nature and the condition of things will no doubt provide, the fittest, as usual, surviving.

—We quote the following from an address given by Mr. J. Taylor Kay, the Librarian of Owen's College, Manchester, England :—"For many years a remarkable fact has been before my notice, and continually confirmed by a long experience in the Manchester Free Libraries, that school boys or students who took to novel reading to any great extent, never made much progress in after-life. They neglected real practical life for a sensually imaginative one."

—The fallacy that the increase of Crime goes on *pari passu* with the advance of Education, has been well replied to in Dr. ALLISON'S late articles in the SCHOOL JOURNAL. This fallacy is being revived in those newspapers which are not ashamed, at this time of day, to abet the cry of selfish Wealth against Education. We are sorry to say that the *Chatham Tribune*, in an article of the most reactionary kind against State aid to Education, resurrects this false doctrine. It says Lord Brougham's prophecy has failed as to Education lessening Crime.

—We are glad to see that the important practical question of Superannuation has been well and thoroughly discussed at the last Middlesex Teachers' Association. We differ from some of the speakers in considering that in this, as in all schemes of Insurance for the industrial classes to which Government aid is given, the payment of an annual sum should be obligatory on all.

—Lord Dunraven's proposal for throwing open public museums and galleries on Sundays does not seem to be approved of by the English school journals. It would no doubt lead to a considerable amount of Sunday work, besides the interference with the religious interests and feelings of the people. There are other opportunities for artistic culture without trenching on the Day of Rest.

—The London School Board has at last closed the vexed question of "keeping in," by expressing disapproval of the practice as a rule, while leaving exceptional cases to the discretion of the teachers. This is probably as far as legislation can provide for the application of a fixed rule to widely differing circumstances.

—At Stubersheim, near Ulm, in Germany, a school has been established for girls of the peasant class to learn farm work, cooking and washing, also sewing, mending and knitting. The village doctor gives some instruction in hygiene and natural history. These classes are only held in winter.

—Mrs. Garrett Anderson, M.D., praises the methods of training at the far-famed Girton College, because students are not admitted there till the age of eighteen. She objects to "haste, excitement, and over stimulation" in the education of girls.

TEACHERS' SUPERANNUATION OR PROVIDENT FUND.

No subject has been discussed so largely during the past two years by the teachers of Ontario as the superannuation question The time for action by the Legislature is near at hand, and we hope that every Association in the Province will consider at an early day the points submitted in the following circular from the Legislative Committee of the Provincial Association. We have already given a large amount of attention to this subject; but we propose during the next few months to publish all the information we can obtain concerning the working of Teachers' Provident Funds, or Pension Acts in other countries :

CIRCULAR TO PUBLIC SCHOOL INSPECTORS.

DEAR SIR,—The Legislative Committee of the Ontario Teachers' Association respectfully request you to bring this circular under the notice of your local Teachers' Association. As the result of several interviews we have had with the Minister of Education on the subject of amendments to the present law respecting superannuation allowances to teachers, he has expressed his willingness to consider and submit for the sanction of the Legislature at its next session such amendments as would fairly represent the views of the great majority of the teachers on the subject, and which the Legislature could reasonably be expected to approve of. If your Association has already held its first semi-annual convention for the present year, please bring the subject before the teachers in your inspectoral division by means of a special meeting, or in any other way which you think best. It is very desirable, in order that the answers to this circular may be carefully considered by the Legislative Committee before the next meeting of the Provincial Association, that the opinions of your Association be sent to the Secretary of this Committee on or before the first day of July next.

The Minister thinks the following propositions are necessarily involved in the consideration of the basis of any new system, and that it is desirable that the opinions of the Teachers' Associations should be given specifically on each of such propositions :

1. In lieu of the present provisions of the law respecting the Superannuated Teachers' Fund, the "Teachers' Retiring Provident Fund," in this Act termed "the Fund," is hereby established, and such fund shall consist of all sums that may from time to time be appropriated by the Legislature out of the consolidated revenue of the Province, and of all sums hereinafter provided to be paid by all persons entitled to a retiring allowance as hereinafter also provided.

2. The following are entitled to a retiring allowance, namely: every male teacher of a public or separate school holding a first, second or third-class certificate of qualification under the regulations of the Education Department, or a valid county board certificate of the old standard ; also every female teacher of a public or separate school holding any like certificate : also every legally qualified master or assistant master of a high school or collegiate institute, and every public or high school inspector.

3. The conditions on which such person shall be entitled to the retiring allowance are as follows : each person must have contributed annually to this fund a sum equal to two per cent. of the salary—limited to one thousand dollars as the highest—payable to him during each year of the period of his service.

4. Every male teacher of a public school is required to make such payments annually into the fund during the period or periods in which he is engaged in teaching.

5. It shall be optional with any female teacher, separate school teacher, high school master or assistant master, or public or high school inspector, to make such annual payments into the fund ; but no such person shall be entitled to any of the benefits of the fund unless such annual payments are made by such person in each year during his period of service, within such periods as may be provided by the regulations of the Education Department.

6. Every teacher, master or inspector with whom it is optional to contribute to the fund shall, during each year of his or her service, and not otherwise contributing to the fund, pay the sum of two dollars for the purposes thereof, and such payments shall be considered and taken as payments made *pro tanto* to the fund, in case such teacher, master or inspector should at any time during his or her period of service become a contributor to the fund under the option aforesaid.

7. The said sum at the rate of two per cent. upon the salary of each person, and the said sum of two dollars also to be annually paid by non-contributors, as hereinbefore provided, shall be made by way of abatement from the annual apportionment of the Legislative Public School Grant, and the Minister of Education shall in his certificate to the Provincial Treasurer of such apportionment also state the amount to be deducted from the salary of each person as his or her annual payment to the said retiring fund, and all sums so deducted shall be paid into and form part of the "Teachers' Retiring and Provident Fund."

8. All moneys from time to time payable to the said fund shall be carried by the Provincial Treasurer to a separate account for this fund distinct from the consolidated revenue fund and also any interest accruing thereon.

9. Every person who complies with the foregoing conditions as to contributions to the fund may retire from the teaching service in his discretion after thirty years of actual teaching, and having reached the age of sixty in the case of male teachers; and after twenty-five years, having reached the age of fifty-five, in the case of female teachers, and shall thereupon be entitled to receive a retiring allowance equal to one-sixtieth of his average salary in respect of each year of his teaching, and if the service had not been continuous, then in respect of the number of years of actual service.

(2) The interest of any person in the fund, or in any retiring allowance when granted, shall not be assignable by such person, or be subject to any execution, attachment or process of any court of law or equity, or judge's order under judgment in the division court.

10. No retiring allowance shall be made for any period of service of less than ten years; and no teacher who retires before he serves the full period of thirty years in the case of males, and of twenty-five years in the case of females, will be entitled to a retiring allowance, unless it has been established by evidence satisfactory to the Education Department that such teacher has become incapacitated by bodily or mental infirmity from performing his duties as a teacher, master or inspector, as the case may be, or unless such male teacher has reached the full age of sixty years, and such female teacher that of fifty years; but any such retiring allowance is liable to be withdrawn in any year, unless the incapacity continues; and the recipient is annually to present himself to the public school inspector, in order that he may report thereon to the Education Department; and any teacher whose disability may cease, and who resumes the service of teaching, will become entitled to the benefits of this fund.

(2) Any male teacher upon reaching the full age of sixty years, and any female teacher that of fifty-five years, shall be entitled to his or her retiring allowance, notwithstanding the periods hereinbefore provided have not been fully served by such teachers.

11. No person shall be entitled to receive back any sum contributed to the fund; but in the case of the decease of any person without having been placed on this fund, his or her wife or husband, as the case may be, or other legal representative, shall be entitled to receive back all sums paid by him into the fund in any year other than during the first ten years of his service, with interest at the rate of five per cent. per annum.

12. The period or periods during which any teacher, before the passing of this Act, has been engaged in teaching, shall be allowed for as if served under its provisions, and any payments made by him on account of the former "Superannuated Teachers' Fund" shall be considered and taken as payments made *pro tanto* to the fund hereby established, and any sum which is required to be paid to equal the amount annually payable to the fund under this Act may be made up by payments in five equal annual instalments after the passing of this Act, or as otherwise provided by the regulations of the Education Department.

13. The allowance to teachers who are now on the list of those superannuated, under the provisions of the former law, will continue to be paid to them under and subject to the conditions thereof.

By order of the Legislative Committee,

ROBERT W. DOAN, Secretary. JAMES L. HUGHES, Chairman.

THE QUEBEC TEACHERS' PENSION ACT.

As the Act lately passed by the Quebec Government, entitled "An Act to establish a pension and benevolent fund in favour of officers of primary instruction" (Act 43, 44, Vict. cap. XXII), which received assent on July 24th, 1880, was the subject of a paper by Dr. Miles of Quebec, and was much discussed in the Provincial Convention of Protestant teachers held at Montreal in October—the following digest has been prepared.

(1) *Officers of primary instruction.*—This term includes "school inspectors, professors of normal schools, holding diplomas, and male and female certificated teachers, teaching in an institution under the control of school commissioners or trustees, or subsidized by them or by the Government, but does not include members of the clergy or religious communities." (c. 1.)

(2) *The pension fund.*—To provide for pensions.

1st. A reduction or stoppage of two per cent. per annum to be made from all salaries. This to be taken half-yearly by the Superintendent of Public Instruction out of the grant. (c. 16.)

2nd. A stoppage of one per cent. to be made annually from the "Common School" and from part of the "Superior Education" funds.

3rd. An annual grant of one thousand dollars per annum to be made by the Government of the Province.

The amount thus raised to be converted into Provincial or Dominion bonds, and held in trust by the treasurer of the Province, strictly for the purposes of the Act. If the interest be not sufficient to pay pensions, the stoppages from salaries of officers to be increased. (c. 12.)

Note.—Salaries to be estimated by the School Inspectors of Divisions, and to be held to include lodging, board and fuel, when given as such. (c. 17, 18.)

(3) *Nature of pension.*

1st. The pension to be annual, "based upon the average amount paid to officer during the years he has passed in teaching, *and for which* he has paid the stoppages." (c. 2.)

2nd. Such pension not to exceed the following rates, viz.:

A. For full service of ten years, one-fourth of average salary.

B. One-fortieth of average salary to be added for every additional year.

C. For forty years' service, full average salary to be paid: no additional grant for service over forty years. (c. 2.)

3rd. Pensions shall not be assignable or subject to seizure. (c. 14.)

(4) *Officers entitled to pension.*

1st. No person entitled to pension for years for which stoppage has not been paid.

2nd. Claim to name being placed on the pension list to be based on five years' previous service. (c. 4.)

3rd. All who have been employed as officers for a term of ten years or upwards, and who have reached the age of fifty-eight years, are entitled to retiring pension. (c. 2.)

4th. Also such as have been employed during thirty years, whatever may be their age. (c. 3.)

5th. Also after ten year's service, such as are unable to remain in the service, owing to serious injury or enfeebled health—incurred through no fault of their own. (c. 5.)

6th. From the age of eighteen, all years passed in teaching or as a normal school pupil, shall be included in the years of service at the time of establishing the amount of pension. (c. 9.)

7th. Former service counted before the Act, provided the stoppages be paid for such period within five years after its sanction. (c. 10.)

8th. Payments under pension fund of 1856 counted as payments under this Act. (c. 11.)

9th. Right to claim pension as well as to amounts paid to the pension fund to be forfeited by dismissal or resignation, except for approved reasons, such as in the case of one temporarily accepting a position in an independent school and regularly paying the stoppage. (c. 15, 24.)

(5) *Widows and Children of pensioners.*

1st. The widow of an officer in receipt of, or entitled to claim, a pension, to be entitled to one-half his pension, (1) if married to him six years before his retirement or death in the service; (2) if still unmarried (c. 6, 7.)

2nd. Where no widow's pension is paid, children of officers are entitled to pension till the age of eighteen to the amount of widow's pension. Tha sum to be divided equally among all below the specified age—the share of those dying or attaining age to devolve upen the others. (c. 8.)

(6) *Details of working.*

1st. Pensions to be forfeited if unclaimed for three years and replacement on the pension list. does not entitle pensioners to arrears. (c. 19.)

2nd. Full certificates required of officers, widows or children claiming pensions or reversions of pensions. (c. 20, 21, 22, 23.)

3rd. This Act does not apply to teachers already superannuated. (c. 25.)

4th. No pension to be paid for five years after the sanction of the Act, and teachers dying within such period lose their right to pension, though their heirs may recover the amounts paid to pension fund. (c. 26, 27.)

5th. Orders or regulations to enforce the Act to be drawn up by the superintendent of public instruction. (c. 28).

Contributions and Correspondence.

ALGEBRAIC FACTORING.

To the Editor of the Canada School Journal:

DEAR SIR,—Agreeably to the wishes of many teachers, I have ventured to forward to you for publication in the CANADA SCHOOL JOURNAL the following, so far as I know, ORIGINAL synopsis of the "Laws of Algebraic Factoring:"

I. An algebraic expression can be factored if it have some letter or letters, figure or figures, common to all or to some of its terms.

This, the method of "factoring by parts," or "taking out the common factor," is treated at length in McLellan's Algebra, pp. 79-82, and in Hamblin Smith's Algebra, pp. 43-44.

II. An expression can be factored provided it be, or can be, transformed into a trinomial—

1. Whose first term is a perfect square.

2. Whose third term contains factors, which

3. When added algebraically appear in the second term as the coefficient of the square root of the first term.

The type of this trinomial is $x^2+x(a+h)+ab$.

Examples of this, and of its extensions, may be found in McLellan's Algebra, pp. 67-73, and in H. Smith's Algebra, pp. 44-47.

III. Provided an algebraic expression be, or can be, transformed into a complete n^{th} power of a polynomial (including bi and trinomials) it can be at once factored.

This includes all squares, cubes, fourth powers, &c.

IV. Provided an expression be, or can be, made the difference between any two n^{th} powers, it can be at once factored; or if it be, or can be, made the sum of any two odd powers.

This includes not merely a^2-b^2, a^3-b^3, a^5+b^5, &c.; but also the illusory forms a^4+4m^4; $x^{16}+8y^{16}$; $x^4+x^2y^2+y^4$. Or examples may be found in McLellan's Algebra, p. 66 and pp. 74-79, and in H. Smith's Algebra, pp. 49-51.

V. If an expression be not reduced or reducible to either of the above, it may be factored—

1. By the application of the "Theory of Divisors," vide McLellan's Algebra, pp. 88-90.

2. By the method of Trial Divisors, McLellan's Algebra, pp. 99-100.

It may be added that many expressions are met with requiring the use of more than one of these laws.

$$\begin{aligned} e.g.,\ & x^4+6x^3+27x^2+162x+729 \\ \text{which} &= (x^4+54x^2+729)+6x(x^2+2y)-27x^2 \\ &= (x^2+27)^2+6x(x^2+27)-27x^2 \\ &= \{(x^2+27)-9x\}\{(x^2+27)-3x\} \\ &= (x^2-9x+27)(x^2-3x+27). \end{aligned}$$

Again, also, such as

$$\begin{aligned} & x^4+12x^3+50x^2+84x+33, \\ \text{which} &= (x^4+12x^3+36x^2)+14(x^2+6x)+33 \\ &= (x^2+6x)^2+14(x^2+6x)+33 \\ &= (x^2+6x+11)(x^2+6x+3). \end{aligned}$$

Thanking you for your kindness in publishing this note in your columns, I remain, yours sincerely,

D. F. H. WILKINS, B.A., Bac. App. Sci.,
Mathematical Master C. H. S.

LOVELL'S GEOGRAPHY.

To the Editor of the Canada School Journal:

DEAR SIR,—Noticing the criticism of the maps in Lovell's geography by "Head Master" (p. 39), I took a look over the maps of South America in "Lovell's Advanced Geography," which one would expect to be a little in *advance* of some others. One would naturally expect, at least, *to find named upon the map all the places mentioned in the text*, but I failed to find the names of 1 ocean, 3 straits, 3 bays or gulfs, 4 peninsulas, 7 capes or points, 8 falls and rapids, 12 lakes and lagoons, 17 towns or cities, 18 states, districts or provinces, 18 islands, island groups or archipelagos, 25 table lands, plains, plateaux, llanos, and pampas, 26 mountain peaks, 33 mountain groups, cordilleras, sierras or ranges, and the amazing number of 53 rivers not named; in all 208 places named in the text but not named in the map. Notwithstanding these facts, the map contains the names of 1 cape, 1 lake, 1 fall, 4 rivers, 4 islands and 69 towns not deemed worth mentioning in the text at all. Then I looked at the map of New York State in vain for the names of Mt. Marcy, Staten Island, West Point and Saratoga, the last three of which places are perhaps as well known to the travelling world as almost any three in any other State of the Union, and are mentioned in the current literature of the day quite as often. Do you think that the books authorized are critically examined by those supposed to do so? Comment is unnecessary—the defect is too plainly seen. Hoping this may be of interest,

I am yours truly,
W. S. HOWELL,
Principal of Milford Public School.

Practical Department.

LANGUAGE LESSONS.

BY MISS BERTHA SIMS.

We *teach* language lessons; we *learn* language lessons. Why? In order that our citizens, when called upon, may be able "to define accurately" the terms—noun, pronoun, verb, adjective, etc.? Rattle off long lists of declensions, inflections, rules, and exceptions to rules? Conjugate verbs (regular or irregular) in all their moods and tenses; or analyse extracts from standard authors, "parsing syntactically the words in italics? No.

This is all very well in its place, but let us be quite sure we know what *is* its place. I am convinced that many of the inaccurate grammatical constructions, most of the forms of expression which we call bad English,"—(as if anything English were ever bad)—are owing to "a mistaken idea of our teachers as to the object of the science of grammar in forming a part of our public school course of study." In fact, "contributing, as it does, to the higher and reflective branches of the work, grammar, as generally studied in our schools, could very profitably be deferred until the child acquires through language lessons a correct use of his mother tongue; since it is now conceded by our best philologists, that language is seldom improved by the study of an ordinary text-book on grammar. Language first—grammar afterwards. Grammar through language; *not* language through grammar. Yes; what we must teach, and aim to teach better, day by day, is not the *statistics*, but the *use* of words. "Mere grammar is dry husks, but words, swift, terse, burning words, let the children learn to store and use." We must teach speech, not the science of it merely.

Teach speech; free, lucid, exact. Let us have no more of the time-honored (?) expression, "I know, but I can't make you understand." We ought to tell; to be *able*, at least, to tell, for we have not, even in these days of freedom, reached that point of which Chas. Kingsley speaks when he says an honorable member of parliament roundly declared—"That, in a free country, no one was bound either to understand himself or let others understand him."

Teach speech. Let the thought behind be given clearly, logically, accurately. It may be a poor thought; it will be no poorer, no more meagre for beautiful surroundings. A grand enduring thought it may be, stamped with the impress of Nature's own nobility. 'Twill be no less grand, no less enduring, enriched by the graceful ministry of art.

Teach speech—polished, ready, true, till in all the land, from

cottage to lordly hall, the laborer at his work, the monarch on his throne; whether it come as the soft cadence of the home life—the busy, stirring hum of market or exchange, the passionate outpourings of the heart, or the stern, resistless torrent of the forum,—our dear old Saxon tongue,—the sweetest, sublimest language under heaven, shall rise, in one grand refrain—noble, musical, right. "So shall the lips of the nation be filled with power."

How shall this be accomplished? What methods must be used, and who must use them? I answer to both questions, many. Many methods, many persons to employ them. *We* cannot be responsible for all methods, we cannot control all persons, in the use of even one of them; but we can be responsible for our own, and we can see to it that we use them wisely and with definite aim. And first, "Thou must be true thyself, if thou the truth would teach," for "We grow like what we contemplate." Then must the teacher himself, at all times and on all occasions, use correct language. Parents and the public *should*, we *must!* I trust, however, that I shall not be misunderstood in my use of the words "correct language." Mistakes have occurred. I had the privilege, while teaching for six months in a western town, of the acquaintance of a lady who spoke what she called "correct language," "good English." You shall judge. She never "breathed," that is vulgar; besides, any one can do it; she "inhaled oxygen." Her friends "began," she "commenced." I "lived" with my cousin, she "resided" with her mother, where she never "went to bed," but mysteriously "retired." While the rest of us "said grace" and modestly "ate" our lunch, she "invoked the Divine blessing," and magnificently "partook of refreshment." Some day she will, no doubt, end her days by "deceasing" with due pomp and solemnity. 'Tis a pity that all such "good English" could not be buried—I mean "interred" with her.

We will have many methods, but our method of methods shall be to have each and every one adapted to the especial wants of the child; and to the stage of development of his intellectual faculties. How frequently energy is wasted here, and a child whose mind is but waking up to life and thought, only unfolding leaf by leaf towards fruition, is required and expected to evince in composition the fragrance and beauty of finished growth. Else he is "stupid," or "destitute of all imagination." So, to a great extent, he ought to be. In youth, it is not the diffusing, but the "assimilating and laying up processes that are still in excess." Let them lay up then and assimilate material, good, wholesome, sufficient material for present necessities, and after life. 'Tis not the office of the bud to fill the mission of the flower. Its all of life, is growth—growth, which a modern writer has defined to be "gradual increase by natural processes." Natural processes! What are they?

Setting aside the consideration of minor details, the three great faculties of the mind, with the periods of the developments of which we, as teachers, come most in contact, are the Observant, Conceptive, Imaginative and Reflective. Speaking broadly and generally, we may divide the ten grades of our city schools into three corresponding groups, viz.:—The first comprising the three junior classes, the second the next four, and the third the remaining three. Of course I do not intend by this arrangement to imply that the children in the first group will be found to be prematurely observant, or in the third marvellously imaginative and calmly reflective. By no means. The boy of fifteen, who, being required to evolve from his inner consciousness sundry remarks on the sheep, stated that —"A sheep is an animal with four legs, one in each corner"—certainly was not either. It must have been the same boy, by-the-bye, who, discoursing the other day on the sublime subject of pies, touchingly remarked: "Pies is of three kinds, covered, crossbarred, and open; I guess I like the cross-barred ones the best." But I must pass on rapidly, for there comes to my mind the effort of another boy who, having wasted the hour allotted to composition in constructing a series of "art studies" of the master, when time was called seized his pen, and enriched posterity with the following couplet:—

"Time flying fast with rapid wings,
Leaves one no time to do one's things."

By the observant, conceptive and imaginative groups I simply mean that in the order named, and as a rule during the period of time that a child *should* pass through the grades of each, do his mental faculties begin to awaken and claim attention. Then (and I would emphasize this strongly, not only for the teaching of language lessons, but of all other subjects) shall we do wisely, we whose duty it is to train the mind, the end of whose labor, "the attainment by each individual of all the perfection of which he is capable;" we shall do wisely, I say, if we approach our work through the avenue Nature herself indicates to us. Portal after portal, gateway after gateway, to the vast treasure-house of the heart and brain, does this oldest of all teachers roll back before our gaze. Wisely (I can find no better word) shall we work, and moreover in certain hope of success, if availing ourselves of each opportunity as it presents itself we bend it to our need, and cultivate through perception, memory, conception, imagination, reflection and generalization, the whole round man.

A gentleman said to me a few weeks ago, "How delightful it is to go out with children. Everything seems so fresh to them." I think he mistook a little. It is not a question of *seeming* but of *being*. Everything *is* fresh—everything. The child stands on the threshold of life filled with wonder and delight. Finite, yet with infinitude to apprehend. Nothing too small, nothing too great to be examined and accounted for. His punctuation marks are all exclamation and interrogation points, interspersed with periods—of sleep. "How pretty!" "What is it for?" "Why?" Poor Mrs. Gargery evidently felt this keenly when she testily remarked of Pip, "Drat that boy! What a questioner he is. Answer him one question, and he'll ask you a dozen directly. Hulks are prison ships, and people are put in the hulks because they murder, and rob, and forge, and do all sorts of bad things. And they always begin by asking questions. Now you get along to bed."

It behoves us to "ask a question" just here. How shall we primary teachers best begin at the beginning, and through this earliest of all mental development, cultivate language in the mind of the child? The answer comes in true logical sequence. "By extending his knowledge of objects. By carefully directing his attention to all that is within his power to grasp, and is worthy of consideration. By means of object lessons (not lectures) on form, color, size, number, qualities. By talks (not all on one side) about leaves and animals and birds." Nay more. Let us teach the little ones "never to lose an opportunity of seeing anything that is beautiful," for that "Beauty is God's own handwriting—a wayside sacrament." Teach them then, as citizens of the great commonwealth of nature, to look for this Divine impulse in subtle harmonies of wind and wave and wood. The "sunshine of the meadow," "the shadows of the forest," the rain shower, the snow storm, "winds wild with gambols."

Ask them sometimes to tell you of the pretty things they have seen on their way to or from school. At first you will find most of the objects come from store windows and kindred places. All products of art, man's nature, yet surely they will urge towards the realm of nature, "God's Art." Tell them stories, and make them re-tell you, graphic in description, simple, wholesome, wonderful. I heard a Presbyterian minister once discoursing (that's what he called it) on the subject of children, in the course of which discourse he observed:—"It is deeply to be regretted, that even in these enlightened days so much of the valuable time of early

childhood is frittered away, by mothers and others, in nonsensical nursery rhymes and foolish fairy tales, such as 'Cinderella,' 'Jack and the Bean Stalk,' and the rest, all of which are useless, and utterly frivolous, not to say positively sinful." He thanked God his young days had never been wasted "in the like." He looked like it. I "specs" he never had a mother, but "growed" like Topsy, only he wasn't half so jolly, nor—poor man—"so wicked." I told my class "a positively sinful one" the next day, for fear that any of them should grow like him. Miss Martineau says that "children are clever in proportion to their state of happiness." The remark is worthy of earnest and deep consideration.

May I suggest here two exercises in "composition for primary classes?" They will be found applicable to either the first or second book classes, and will add variety to the work. We select some object in the schoolroom, say the stove; I write in large letters, THE STOVE, on the board. Then I get from the class short, detached sentences describing it, placing each as it is formed; somewhat as follows:—"It has four legs. It has a door. It is black. It is made of iron. It burns wood. It is oblong. It has a pot-hole." Now let some one draw the chalk through all the things that it *has*. Then what it *does* or *is*; arrange each division in sentences by itself, thus:— "The stove has four legs, a door and a pot-hole. It is made of iron and is black. Its shape is oblong. It burns wood." This can then be copied down on slates. A picture may be made use of in a similar manner; it having been placed before the class, they may be required to write or print the names of all the objects to be seen therein—an excellent test for spelling. Another day, this might be done from memory, or we may use it as we used the stove, analytically naming the different objects, then synthetically arranging in concise form in sentences. Again, let the teacher draw some object on the board, perhaps a house, and set the children to weave for it imaginary surroundings; its size, what it is built of, who live in it, what they do. Forming one of the best exercises for the development of language, this last plan will be found, at the same time, to add piquancy and variety to the fertile fancy, the well-known "make believe" power of childhood and it is by the care and fostering of its tender shoots that we pave the way for a vigorous and full maturity in after life.

Try these, or better methods if you have them, but in all—by any and every means in our power let us encourage the children to talk. Thus only can we discover the errors of style, punctuation, or construction that need correction. And this correction should be prompt, kind, unfailing; *e.g.*, a child says "and he seen him do it." No need to branch off into the higher mathematics of the art of speech, just say quietly, with slight emphasis, "Yes he *saw* him do it well," and make him repeat the correct form.

If we can succeed in this manner in eradicating the more glaring grammatical errors in common use, and which certainly do not number more than twenty at the most, we shall have done much to render our future work in language easy and pleasant. The child in the primary class having been taught to exercise his power of perception in every possible direction; having largely extended his vocabulary, by hosts of words which are *really* as our text-books have it, "signs of ideas," has yet spent his time (and rightly spent it too) chiefly amid things real and tangible; and he has seen so much that is wonderful, so much that is incomprehensible even in these tangible realities, that, with growing years, passing from the known to the unknown, there dawns on his mind the conviction that there may be, that in fact there *are*—peoples—realms of wonder, in short, "many things in heaven and earth not dreamed of in his philosophy." And so conception, the second of the intellectual faculties, awakens and turns towards the light.

We have now to deal with our II. group, and with the children, filling I should judge from the senior second to the junior fourth inclusive. Still keeping up the culture of the observation on the lines already indicated, we may extend our work with the extending power of our pupils. These can now easily be taught the principal parts of a sentence; can learn to form sentences in whole or in part, by supplying omitted subjects, objects or predicates. They can acquire *by practice*, simple rules for capitals and punctuation marks. Having been told short anecdotes of a miscellaneous character, they can reproduce them in writing. Give them the substance of an imaginary newspaper paragraph, and see who will arrange it in the best style. And you can have enjoyable exercises in letter writing. Imagine you are anything or anybody, and conduct your correspondence accordingly. Having selected a subject, for some time after letter writing has been commenced, the teacher should just write the letters on the board herself, under the direction of the class. The proper construction of a letter, *i.e.* the date, address, forms of opening and closing, can be given *incidentally*. I saw a short time ago a rather startling suggestion in an American school journal, to the effect that children might be required to write letters to animals. There can be no harm in trying the experiment. Another good idea was to let *them* keep a written list of all the ungrammatical expressions made use of by themselves, or common among the public generally.

All these exercises can be varied to almost any extent either with regard to matter or method; and it is hardly necessary for me to say, are best conducted in school, under the eye and sympathy of the teacher. Before passing to the III. group, let us pause to consider for a moment what our work thus far has been.

We have sought—none know better than I, with what fluctuation of purpose, remitting energy, often hurried and imperfect execution—still we have sought and *will* seek to develop power to observe and express; to conceive and express. We have used and guarded and strengthened the early dawning, the playful infancy of that mightiest of all the powers of the mind—the imagination—"the faculty which alone invents and creates," whether in the child world, the domain of thought, art, or human industry.

We may now stand aside and leave to the higher classes of our schools, our colleges and universities, to our masters and professors, the mature work of the maturing mind.

It would be presumption for me, a junior class teacher, to offer to the high dignitaries I have named any suggestions of my own for the proper fulfilment of their task; yet, in tribute to the memory of one of the best teachers it has been my privilege to know, I should like if they will permit me to describe the method pursued by our English master at school. I am sure he *taught* us well. How we *learnt* I know not, only we liked the process. We had four lessons a week, each of an hour in length, and though he "made haste slowly," he found time to accomplish much. He taught us analysis and the rules of what is generally known as grammar, etymology, delighting us the while with Archbishop Trench's "Queen's English" and "Study of Words." We committed to memory poems, extracts, verse, simile, metaphor, from the writings of our standard authors,—transposed poetry into prose and prose into verse. With him we made acquaintance of much of the pure and good and noble in the English world of letters. He told us of Chaucer, "Great Father of English Poetry"—sketched the plan of the Canterbury Tales, giving to us, as I have never forgotten it, the story of "Patient Griselda."

We heard of Shakespeare and Macbeth, Dante and his Inferno, Addison, Milton, Wordsworth. We had passages from Dickens Goethe, Ruskin, Thomas Carlyle; pathos, humor, satire; what not? Filled with it himself, he tuned our ears to catch "the lordly music flowing from the illimitable years;" while together we wandered o'er the classic fields of ancient days, and dreamed again the dreams of the heroes and the gods. Homer—the Iliad—Troy,

Orpheus and Eurydice, Ulysses and Polyphemus, he told us all, with a rapt, dreamy, vivid description, that made the whole life-like and real—and whatever he told, whether it was life of author or his work, he required us to reproduce it in our own words and style, giving us plenty of time for reflection and work. He taught much more besides—geography, history, arithmetic—and always bore with all our shortcomings and perverseness with such a tender, manly gentleness, that come what might, we gave him that which I think is worth more than all else between pupil and teacher—our respect.

And now I have done, and you ask me "What will result from all this—this cultivation through every faculty of the whole round man?" You know what Longfellow says:—"Feeling is deep and still, and the word that floats on the surface is as the tossing buoy that shows where the anchor is hidden."

These "tossing buoys"—paint them with every conceivable form of art, gild them with all the showy blaze of elocution and rhetoric. Then what? For themselves nothing. A gleam, a flash in the sunlight—anchor indicators, that is all. These changing "anchors" hidden—where? We trust, where we have labored and toiled and prayed that they might be hidden, firm and fast 'mid all that is pure and good and lovely; in a strong unshaken faith in God and nature and the one brotherhood of humanity; in freshness and simplicity of heart; hidden, firm and fast, in that affection which hopes and endures and is patient; in manhood and womanhood; in strength and tenderness and that sublime pity which makes the world soft to the weak and noble to the strong, the eloquent pathos of the here and hereafter; in prayer and courage and patient toil. So from these brown-handed children shall grow mighty rulers of state.

The pen of the author and statesman,
The noble and wise of the land,
The sword and the chisel and palette,
Shall be held by the little brown hand.

OCCUPATION FOR YOUNG CHILDREN IN SCHOOL.

BY A PRIMARY TEACHER.

How shall we keep the little ones happy, busy, and orderly? Happy, because childhood should be the embodiment of happiness; busy, because little fingers were made to be busy; orderly, because order is essential to all progress.

It is the part of wisdom to direct, not to suppress the forces of nature. Children, if well and strong, are full of animal life. How shall we use this activity to advance education? When left to themselves, they are continually seeking occupation; their vivid imaginations give life to everything.

People have come to acknowledge that the method nature adopts must be the best. A Being of infinite wisdom and love certainly cannot err in His plans! In teaching language, what is termed the natural or conversational method is being adopted with marked success. The kindergarten acknowledges this principle, and very beautifully provides for it. But it is an elaborate system, requires special training, is expensive, and demands an increased force of teachers; and is, therefore, impracticable in ungraded schools or in large classes, which is the case in most of our schools. But cannot an approximation to the kindergarten be attained in said schools?

Sticks, blocks, beans, papers, wires, etc., are inexpensive and are readily obtained; may we not put them to good use in our schools by using them in a systematic, instructive and orderly way? As an aid to teachers in this direction the following lessons are presented hoping they may prove of some slight assistance:

I.—STICK EXERCISE.

Provide each child with ten short sticks (about the size of matches). These may be kept either in a small box for each child or in a large box, from which they may be distributed. It is well to have a familiar conversation concerning the different objects used by the children in school, so they may understand of what they are made, the uses of the materials, and how and where obtained. Begin with a talk about wood. Ask of what the sticks are made, where they came from, what kind of substance.

Develop the idea of natural by comparing with things that man makes, as paper, cloth, glass, etc. Let them find in the room all the natural substances or things that God made; then the things that man made. Refer to articles of food and whatever other things may suggest themselves, until the children thoroughly comprehend the term natural. If the children are old enough, the term manufactured may be given; if not, use the simple definitions. The idea and not the term must be the prominent point.

Let the children name the various things made of wood; first, those in the room, and then any they may think of. The easy words may be written on the board as a spelling lesson. In school work every possible thing should be utilized; reading, spelling, writing and arithmetic may be brought in indefinitely.

Have two glasses of water; in one place a stick or a large piece of wood, in the other a marble, a small piece of lead, iron or stone. Let the children observe the result, and tell why. The terms float and sink may be given, also light and heavy. Little or much may be given in one lesson, as the time or ability of the pupils admit, always stopping before the interest flags. The teacher may now take a stick and hold it in a vertical position, ask the children to each take a stick and do the same. Ask some one to draw a line which looks like the stick as he is holding it. Let them find something in the room in the same position. Tell them we call this position vertical. Ask some one to stand in a vertical position, hold slate or book in same position. Have the class repeat—I hold my stick in a vertical position—I hold my slate, etc. When this is learned, the teacher may hold the stick in a horizontal position, asking the children to do the same; then slanting and parallel, proceeding in the same manner as with vertical. One or more positions may be given in a lesson, as the teacher sees the children comprehend them. Each lesson should be preceded by a thorough review of the old.

In giving the lesson on parallel lines, lead the children to see that the lines will never meet. After each oral lesson have the children arrange the sticks by themselves, and copy the positions on their slates.—*New York School Journal.*

PENMANSHIP.

BY PROFESSOR SHUTTUCK.

When I go into a school room the teacher shows me the best copy books; I then ask for the poorest one. The teacher is to be judged by the poorest work he does. All teaching should aim at the lowest, should come within reach of the poorest.

When in Pittsburg, I visited a school in company with one of its officers. He said: "If it's in a boy to write, he will. If it's not, he won't." He pointed to a boy and said, "Teach that boy, and I'll believe any one can be taught."

This boy was writing in a book having two rulings. His letters slanted every way, and touched neither top or bottom line; he said he could do it no better. I told him I wanted him to do me a favor by writing a single word and have the letters touch the top and bottom ruling. Instead of one word I had found he had written four lines. I said: "I told you to write but one." "Yes," said he, "I did, but I didn't like it, and wanted to make it better." I told him to write one more and then bring it to the teacher. He did. She asked in astonishment, "Did you write that?" He was proud of it. I merely pointed out a little thing for him to do, and he did it. Put your instruction within reach of the lowest.

A teacher needs to impress on every pupil that the eye of the teacher is on *him*, the same as if he was alone. He cannot actually see every child, but he can see their work, and mark his estimate of it, and correct his errors. To accomplish this let us take up the practical work of the class-room. A common fault of beginners is to bear down hard on the pen. When in passing along I see this, I put on the top of the page a light mark |, meaning "write lighter." If they do not touch the top or bottom line, I put two parallel lines. If the slope of the letters is not correct, I put a slanting mark thus /. If the letters are too near together, or too far apart, or if they are irregularly grouped, I put a cross ×. I take their books at the end of a recital and note the characteristics. On the next day I ask of all who had a certain mark (those slanting

wrong, for example) to stand up and look at their books. I ask them for their opinion as to whether the mark is right or not, as I admit my liability to err. They are sensitive to this criticism. But mind, it won't do to be too critical or find too much fault. I seek an opportunity to praise. When I see improvement in the copy I make a mark at the bottom. The same mark at the bottom as at the top means improved in that respect. They are qualified to find such marks.

The first thing is to hold the pen right. Tracing books are made for this. Their proper use is not to teach the formation of letters, but how to hold the pen and hand, in going over the tracing. If you tell them how to do this, and then tell them to write, they at once knuckle down to it with cramped fingers and hands, trying to make a good letter. But first let them use a dry pen until they can hold it easily, and bring his book into a position to suit the slant he wants to give. That is, train to hold the pen before writing with ink.

ECONOMIC METHODS OF TEACHING.

A PAPER READ BEFORE THE COLLEGE OF PRECEPTORS, LONDON, BY MR. D. NASMITH, LL.B.

When addressing an audience mainly composed of members of this College, and, consequently, of persons who have made the subjects of Education and Instruction a study, it is probable, and but reasonable, that I should be expected to state at the outset the real object of my paper. It is this:—I venture to think, that the vast increase in the number of the subjects of study, the most striking and characteristic feature of this age, necessarily involves one of two consequences. The schoolmaster who wishes to get and keep his pupils up to the modern standard, must become a mere teacher, if not a pure coach, or new systems of imparting information must be found, which, while enabling master and pupil to satisfy present conditions, do not involve the sacrifice of the benefits that naturally attached to the system of what we may now call the Old School—a system which was essentially educational, as distinguished from instructional.

Defective and objectionable as was that system, in that it not merely confined scholastic advantages to the few, but denied to that favoured few knowledge of anything beyond the classics and mathematics; it is by no means clear that the system by which the old has been replaced is an unqualified blessing either to the state or to the individual pupil. The present system might, with no small propriety, be styled the system of wholesale instruction.

Happily, most enlightened persons now admit that a proper education and proper instruction are the birthrights of every subject, and that a state that does not secure and enforce these rights, neglects, if it may be so expressed, a primary duty to itself and to each of its subjects.

The question, however, still remains—What is proper education? What is proper instruction?

It cannot be doubted that the answers to these questions are most discordant; that, in fact, but few outside the profession of schoolmaster, and not a few within it, regard the two words as practically synonymous, and that the great mass, by the term "proper education" or "proper instruction," intend adequate instruction in the subjects commonly taught in the schools of the class and period to which they refer. The term, consequently, has no positive, but a mere relative signification.

When used by one class respecting themselves or their children, it means something widely different from that which they intend when used by them respecting persons in another class; hence the lament, not now unfrequent, that the children of the poor are receiving, at the cost of the state, an education equal to that enjoyed by the more wealthy, at their parents' charge.

I venture to think that it is in the interest of the state, and therefore of the ratepayer, that the children of the poor should receive as good an education as the children of the most wealthy; but that it is unreasonable, if not absurd, to give them the same instruction. The better the education, the better must they be fitted for the battle of life, and the better able to do justice to themselves and others, in whatever sphere of life they may happen to be. If by *good, better, best*, when applied to instruction, is meant *much, more, most*, it is possible, it is even highly probable, that the comparative and superlative instruction will prove not merely superlative but pernicious. If, however, by *good, better, best*, when applied to instruction, is meant degrees of quality and not of quantity, then I venture to say of instruction, as of education, the better it is, the better it must be alike for all.

It is the duty of the educator to develop native forces. It is the duty of the instructor to instil foreign elements. It is the duty of the schoolmaster to do both scientifically. To educate his pupil, the schoolmaster must throw the burden of the labor upon the pupil. To instruct his pupil he should take, as far as possible, the burden of the labor upon himself. When the primary object of instruction is mental education, the burden of the labor should be adjusted according to the nature of the particular subject dealt with as a means of educating.

Permit me to illustrate. It is desired to educate the pupil physically and muscularly. The machines employed are the parallel bars. The educator stands by, directs and watches. His knowledge enables him to dictate what the pupil should and what he should not do; what will develop the muscles and what will strain them; what amount of labor can be endured with benefit, and the point at which the exercise, to be profitable, should cease. It is true that, by going through the exercise himself, the educator might show what he could not otherwise explain, but it is clear that no amount of physical labor on his part could develop a single muscle of the pupil.

Again, it is desired to instruct for the purpose pure and simple of instruction, *i.e.*, to impart to the pupil information on a given subject,—*e. g.*, the leading incidents in the life of Nelson. In this instance, the pupil becomes the practically passive recipient, the labor is taken upon himself by the instructor. By skilful arrangement of his matter, and by a happy manner of handling his subject, he lays stress upon the more important features of his narrative, and passes lightly over the less important though necessary links; and by just modulation of voice, and occasional change of position, he keeps the pupil's mind from wandering, absorbs his attention, and leaves upon his memory a lasting impression of the great hero.

It is true that he might have given the pupil a life of Nelson, and told him to read it, but it is clear that that would not have been instruction. Is it not equally clear that the same amount of information and depth of impression could not have been acquired and made in the same time by any other process?

If these illustrations are apt, it is obvious that, for the purpose of educating, the labor must be thrown upon the pupil; for the purpose of instructing it should be taken upon himself by the tutor. That being so, it becomes necessary to determine the true province of education, and to distinguish it, as accurately as possible, from that of instruction. In other words, it is necessary to determine where the schoolmaster should be active, where essentially passive.

I assume it to be admitted that no system of training can be good which ignores or discards the doctrine of equilibrium—that is to say, which overlooks the fact that each pupil has a physical, a mental, and a moral nature (I use the word moral for the want of a better term); or which attempts to improve or develop either of the three at the expense of, or to the neglect of, another or others.

Further, I take it to be admitted that the notion of teaching drawing, because the pupil happens to have a good eye, or music, because there happens to be a good ear, is a thing of the past,—a dull and stupid confusion of the province of the school, which is to develop those senses and faculties that are defective, and the question of the selection of the proper profession or business to which the child should be assigned, which, if intelligently done, must necessarily be determined by regard to the natural abilities and tendencies of the youth

The drilling master, the music master, the drawing master, the language master, the mathematical master, the orderly, may each be perfect of his kind; but neither of these, nor all combined, constitute the schoolmaster. It is his duty to use each and all of these as instruments, each in its proper sphere, and good only as each serves to work out the schoolmaster's peculiar problem, the equal development of each pupil.

As the harper tunes his harp before he begins to play, or as the tuner tunes the piano before he leaves it to be played upon, and as each gauges the strength and quality of the instrument, and tightens or loosens, as need may be, in order that equilibrium may exist consistent with the capacity of the particular instrument; so, I take it, is the aim and high art of the schoolmaster, whose duty it is, not to stuff a given amount of information into his pupil, but as far as possible to bring into equilibrium, not merely the physical, the mental, and the moral elements, but the various senses of each pupil.

For the purpose of my argument, I will assume that due regard is paid to the physical, to the mental, to the moral training of each pupil, and to the due development of each of his senses. I therefore necessarily assume that out of each working school day two adequate portions of time are allotted respectively to the physical and moral training, and that the working hours remaining for the mental work are proportionately curtailed.

The details of physical and moral development I pass over as foreign to the immediate objects of this paper,—with, however, two observations, viz.:—1. So far as I know, nothing approaching a rational, much less a scientific, system of moral training exists in our schools. Morality and religious creed or dogma are commonly confounded. Religious instruction is considered sufficient to satisfy the requirements both of religion and morality. 2. Mental work appears to be fast driving the physical out of school hours, even in schools where its importance as a branch of school work was formerly recognized,—a fact sufficient in itself to render it at least doubtful whether the present tendency is wise.

If when, some twenty years ago, an admirable idea was started, —I refer to the creation of volunteer cadet corps,—an Act of Parliament had been passed making it compulsory to devote a certain number of hours per week out of the ordinary school hours of every boy, school to military drill, superintended by a competent drill sergeant, schoolmasters would have been pleased, the boys would have been delighted and greatly benefited, and the state would at this moment have had a large army of at least half-made soldiers, in addition to the regular forces, the volunteers, and militia. The mistake then made, as I then ventured to point out, was fatal to the success of the scheme. It was to take the drill time outside of the ordinary drill hours. Boys are boys, and should be boys; they want their play, and ought to have it. Nothing could be worse for the future interests of this country than to make them effeminate, or mere intellectual machines.

If we admit, as we necessarily must—first, that no man can know everything; and, secondly, that there are many subjects, no one of which can ever be thoroughly mastered by any one, be his life ever so long, his energy ever so great—it appears to me that we cannot avoid certain consequences. They are these:—If perfect knowledge of one subject cannot be acquired when the whole time and energy is devoted to it, in proportion as the number of subjects is increased, the possible knowledge of each must decrease, and the consequent value of the knowledge acquired must correspondingly decrease till ultimately it becomes practically worthless as a matter of knowledge, though the universal smattering may have been the result of long and laborious labor. "Jack of all trades and master of none" is an old saying worthy of modern consideration. It was believed in, in the days when Englishmen preferred quality to quantity—in the days, now gone, when the British brand always fetched the long price abroad.

What more objectionable individual can be met with than the would-be omniscient—the man of reviews, short essays, newspaper cuttings, who, thus crammed, feels himself master of the Land question, or the Eastern question, or more than able to settle the Irish or any other difficulty? Is it not well to take heed lest we breed and multiply this hateful brood?

If we admit that the primary object of the educational establishment, be it school or college, is not to complete education and instruction, but to begin it; not to exhaust powers, but to develop and strengthen them; not to satisfy wants, but to create those of a wholesome character;—we necessarily admit that the education given, and the instruction imparted, are given and imparted as means to two distinct ends: the first being the fitting of the pupil to commence life; the second, and far more important, being the fitting of him to do justice to himself in life.

To fit him to commence life—that is, to pass out of the educational establishment into the world in the particular sphere of life then open to him—it is obvious that he must be made, if I may so express it, fashionable according to the fashion of that sphere; for he cannot be at his ease in that sphere, nor can he benefit by the advantages peculiar to it, unless, at the start, he is more or less like others in it.

If, therefore, it is the fashion of his class to know a little Greek and Latin, he should be taught a little Greek and Latin. If it is the fashion of his class to know a little French and German, he should be taught a little French and German. If it is the fashion of his class to content themselves with the three R's, he should at least be taught the three R's. There is, of course, no objection to his being fashionable among the fashionable, provided always that in this, as in other respects, excess of fashion does not render him ridiculous. We all know how little we know. We all know how to excuse ourselves and others, when the expected standard is not reached; but we despise those who, aping greater things, show like shortcomings.

Upon the principle, and upon that alone that it is the fashion to do so, can the fact of teaching seven, eight or more different subjects concurrently be justified. At least, such is my opinion. It is now the fashion to pass examinations. I venture to say that is a good fashion. It is the fashion at present to include in those examinations a vast number of subjects. I venture to think that a bad fashion. Be that, however, as it may, so long as the examinations and the subjects of examinations are in fashion, they must be passed, or the pupil and schoolmaster must lose caste.

Am I, or am I not, justified in saying, that to fit the pupil to do justice to himself in life, he should be taught, while at school and at college, and while preparing to pass his examinations, that the information he acquires, or can possibly acquire, at either, is a thing of but little value—a matter of minor importance; and that the great object of his training is, not that he may acquire knowledge of a particular subject or subjects, not that he may pass this, that or the other examination, but that he may learn how to learn and how to work that he may become able to learn or to work intelligently at any subject?

If this suggestion is sound, the course to be pursued with him, so far as practicable, regard being had to the satisfying of the first demand in point of time, appears obvious. It is to develop observation, memory, reason, industry, moderation, and, above all, thoroughness. These are the latent forces which, if developed, give strength and the consciousness of power sufficient to induce and warrant effort in any direction. But how can thoroughness be made possible when a number of different subjects is demanded? The problem is this:—How can we educate and instruct so as, at one and the same time, to satisfy the demands of the immediate and of the more distant future?

It appears to me that the first thing to be done is to examine, and if possible classify, all the subjects of study. They appear to be capable of division into three classes, viz.:—

1. Subjects that are essentially educational; *e.g.*, reading, writing, arithmetic, including the higher branches of mathematics, drawing, and the like.

2. Subjects essentially instructional; *e g.*, history, geography, philosophy, literature, and general information.

3. Subjects that may fairly be styled semi-educational and semi-instructional; *e.g.*, languages, chemistry, music.

It is impossible to look at the first class without at once seeing that the burden of the labor in that division must be undertaken by the pupil. Reading, writing, and arithmetic cannot be done for him, though his tutor may materially lighten his labor by suggestion, example, and especially by marshalling his work, and placing it before him in the order in which it should be undertaken.

It is equally clear that, in the case of the subjects of the second class, the burden of the labor can, and I suggest should, be taken upon himself by the tutor. My proposition is, that all subjects properly belonging to this class should be taught orally, and, where possible, illustrated by maps, charts, models, and diagrams. My Chronometrical Chart of the History of England will be my illustration of my view as to the proper method of teaching subjects of this class. Where they are not taught orally, they might be made the subjects of reading lessons. To stuff their leading facts and propositions into small books, and compel the pupil to learn them, is to fill him with husks, not pleasing to the taste, that are difficult of digestion, and profitless in assimilation. Such books contain the dry bones without the comely flesh or vital spark of history. What is true of books of this kind upon history is no less true of books of like kind upon the other subjects. I must not, however, be understood to suggest that books of this kind are bad; on the contrary, they are, in my opinion, most useful. It is not their use, but their abuse, against which my observation is directed. That abuse is the treating them, or allowing them to be treated, as the source, the beginning, and the end of historical or scientific instruction, instead of regarding them as mere indices.

In the case of subjects of the third class, it appears to me that the labor can and should be divided, and that by such a division the respective duties of educating and instructing may be discharged with equal pleasure and profit both to teacher and pupil.

With your permission, I will illustrate my meaning by stating, in distinct and separate propositions, the bases of my practical Linguist series. Where it appears necessary, I will comment upon

the proposition; otherwise, it will be allowed to speak for itself. They are these:—

I. The vocabulary of every language contains a vast number of words that are practically useless
(a) To any particular individual.
(b) To the community in general.

A single catalogue of a library, a museum, or even of a florist, will not fail to satisfy the most incredulous that there are many words which are of no practical utility to him. Half-an-hour spent in turning over the pages of a good dictionary will suffice to remove doubt, if any exists, as to the fact that many words are practically useless to the community in general.

II. The vocabulary of every language is divisible into two distinct classes of words; viz.:—
(a) Words without which it is impossible to speak or write upon any subject whatever.
(b) Words which are only used upon given occasions, or under particular circumstances.

The former may be termed the *permanent vocabulary*, the latter the *auxiliary vocabulary*; or, to be more precise, the latter are the auxiliary vocabularies, for words of this class are divisible into a series of distinct vocabularies.

The auxiliary vocabularies are all composed mainly, though not entirely, of substantives. The permanent vocabulary embraces all words other than those that belong to the auxiliary vocabularies.

This proposition indicates the superior importance of the words of the permanent over those of the auxiliary vocabularies, or either of them.

III. All words have a numerical value. The numerical value of the words of the permanent vocabulary is individual, that of the words of the auxiliary vocabulary is generic.

For example, the words "and," "the," "some," "I," "shall," "will," "you," "she," "has," are words belonging to the permanent vocabulary, and are obviously of higher numerical value,—*i.e.*, are used more frequently, whether in speech or writing, than "come," "call," "stop," "wait," "therefore," "afterwards," "long," "find," "agree," which in their turn are obviously of higher numerical value than "offensive," "defend," "entail," "connect," "avert," "attract," "cultivate," "subordinate," "appreciate," also words of the permanent vocabulary. It is also obvious that the numerical value of each of these words is individual; that is to say, if the value of the word "and" is represented by the number 40, that of "come" may be represented by 20, that of "offensive" by 1; or, in other words, for every use of the word "offensive," the word "come" is used 20 times, the word "and" 40 times. These figures are, of course, given solely by way of illustration.

In the case of the words of the auxiliary vocabularies, the numerical value, on the other hand, is not individual, but generic; *e.g.*, "bread," "meat," "coffee," "tea," "plate," "knife," are words of the auxiliary vocabulary of the meal table; and "rhubarb," "castor oil," "pills," "plasters," "leeches," "blisters," are words of the auxiliary vocabulary of the chemist and druggist.

One word peculiar to the meal table is practically used as frequently as another, and may be said to be of equal numerical value. The same may be said of the words peculiar to the chemist and druggist. But any one, the druggist himself excepted, must be an unhappy mortal who uses the one vocabulary as frequently as he does the other.

IV. The numerical value of words may be ascertained, if not exactly, at least approximately.

Thus, we may take a book, and, beginning at the beginning, write down each word upon its first appearance, and for every subsequent appearance place a tick against it. It is clear that the word with the greatest number of ticks is the word of highest numerical value in that book, and the words without a tick the words of lowest numerical value. A second, a third, or any number of books may be treated in the same manner. If they are dissimilar in character, the relative value will necessarily differ to some extent; but, by adding the total numerical value of any given word common to all, and dividing it by the number of the books used, the numerical value of that word in those books, taken collectively as well as individually, may be ascertained.

V. The learning of the individual words of any language, whether to speak, read, or write them, is a pure effort of the memory, sometimes, though comparatively rarely, aided by comparison.

This proposition needs no present comment beyond this, that it must be in the interest of the learner to learn the words he has to learn in the order of their value to him.

VI. Every language has a method of combining words peculiar to itself, though more or less common to other languages of the same stock. Its peculiar method of combination may be styled its mould.

The next proposition, and the examples given under it, will illustrate this.

VII. The mould of any foreign language may be learned, without knowledge of the words or grammar of that language, and is learned most rapidly, by comparison with that of the native or some other foreign language. The peculiarities of the native language cannot be learned, without comparison of its mould with that of a foreign language.

Thus the Englishman says, "We are thirsty;" the German says, "We are thirsty;" the Frenchman says, "We have thirst." The Englishman says, "I do not know;" the German says, "I know it not; the Frenchman says, "I not know." The Englishman says, "How is your father? He is not very well;" the German says, "How finds himself, your Sir Father? He finds himself not very well;" the Frenchman says, "How himself carries Mister your father? He not himself carries not very well."

VIII. A thorough practical knowledge of a language does not necessarily involve any theoretical grammatical knowledge of it.

We learn to speak, read, and write, as we learn to walk, run, or jump; and as by practice we may walk, run, or jump well, without knowing why, when we jump and thus leave *terra firma*, we do not go straight to heaven, so may we speak without being able to explain the grammatical structure of a single sentence.

I will not say it positively, but I have a notion, that if all the best speakers and writers that we have, unless they happened to be somewhat young, were examined in English grammar by a sharp Board School boy, most of them would be plucked. How could it well be otherwise, when in the school-days of persons now of middle age, English grammar was left to the vulgar, by those who considered Latin grammar the proper thing for gentlemen, and French for ladies.

IX. The accidence of a language can be tabulated. Each form has a numerical value.

To chop the accidence up into small pieces, and to distribute those pieces throughout the numerous pages of a book, is to treat accidence as geography is treated by the makers of dissected maps, with this difference. The grammarian has all the disadvantages of dissection, without any of its advantages. He takes his little block, looks at it, examines it, even learns all that is upon it. What then? It is part of a great whole, but he knows not, he sees not that whole. The geographer is better treated; he has his picture of the whole country. He sees where each little piece fits in. Ought not the accidence of each language to be tabulated, printed in bold and distinguishing type, and suspended on the wall, that the whole may be visible at a glance? I think it should.

X. The syntax of a language cannot be tabulated. It must be stated in rules, with their exceptions. These rules, however, are capable of contrast or comparison with the corresponding rules of the syntax of any other language.

From these ten propositions I make the following deductions:—

First—If the numerical value of individual words can be ascertained, it is obvious that words should be learnt in the order of their numerical value; it is also obvious that they should be combined, or formed into phrases and sentences, in the order of their numerical value; it is further obvious that, if so combined, the mould of the highest numerical value must first come to the surface, and others follow in its wake in the order of their respective numerical value, and that the particular form of the accidence of the language and the particular rules of its syntax must be developed and presented in the same order.

Secondly—If words, moulds, accidence, and syntax are respectively, whether separately or collectively, learned and explained in the order of their numerical value, the language must be learned more rapidly than is possible by any other mode of procedure. If words, moulds, accidence, and syntax are dealt with in their actual utility, no labor is spent in vain, and time and strength are saved for other work.

It need hardly be said that the pupil cannot do this work of marshalling and classifying for himself, or that each individual teacher cannot do it for him. It must therefore, if at all, be done

for both by some third person. In my "Practical Linguist" series, I have endeavored to work both for pupil and teacher, and by taking labor upon myself, have endeavored to reduce the labor of each to the minimum. To secure this end the following method has been adopted, viz. :—

I. The words of the permanent vocabulary have been arranged in the order of their numerical value, as ascertained by actual counting.

II. The various forms or moulds of expression have been evolved in the same order.

III. The various forms of the accidence and rules of syntax have also been brought forward and dealt with in the same order.

IV. By accidence more perfectly than is usual in grammars, and by recourse to various types, the wall map of which I have spoken has been approximated as closely as was possible.

V. By contrasting each rule of syntax with the corresponding rule of English syntax, it has been sought to render each rule easy of appreciation and retention.

My aim, in the case of languages, has been to draw a broad line between instruction and education, by making the instruction as simple as possible, and at the same time placing in the hands of pupil and teacher an efficient educational instrument.

By this system the eye is educated by close observation of individual words, and by contrast and comparison of accidence and rules. The memory has its fixed and assorted work; the essence of the system is that constant repetition which secures the making fast of each step as it is taken. Reason is appealed to in the contrasted rules. The ear should be educated by close observation of the teacher's pronunciation, which, I venture to say, should never be attempted by any one other than an educated native of the country the language of which is in question. It is ridiculous to attempt to teach pronunciation through the eye. It is next to impossible to meet with any one who can speak a foreign language with the accent of a native.

In conclusion, as to languages, permit me to say that I rejoice to hear that it is proposed to introduce the study of French and German into our Board Schools. Independently of the social and commercial value of these languages, which is daily and rapidly increasing—which alone appears to me a sufficient reason for the teaching of one at least in every Board School, as a means of enabling the poorer classes to take situations in our commercial offices, now but too frequently filled by Germans—the study of foreign languages can undoubtedly be made an important instrument, if not the most perfect instrument of education.

As instruments of education, and as satisfying the fashion of certain sections of the community, Latin and Greek are doubtless of value. Speaking, however, for myself, I will say that I wish it had been the fashion in my school-days to make French and German the instruments of my education, and to have given me instruction in subjects that must necessarily have proved useful throughout life.

As we cannot learn all things, it seems but common sense to learn subjects as well as words in the order of their actual utility. Being able to speak, read, write, and count, or while becoming able to do so, and having some notion of the size of the world and our whereabouts upon it, one would suppose that, as our bodies are to be always with us in this flesh, and we hope our purses also, that our instructors would teach us something about animal physiology, hygiene, disease, and political economy. Being governed by and subject to the laws of the land, it would not be unreasonable to give us, when young, some notions of rights, duties, and obligations, of crimes, and breaches of obligations. But it is not so considered. In the wisdom of our rulers and masters, they say—For those things enquire of the doctor and lawyer; to us you may come for classics, English language and literature, French, German, Italian, Spanish, Hebrew, and Oriental languages; history, whether scriptural, ancient, or English; geography, mathematics, and natural philosophy; statics, dynamics, hydrostatics, astronomy, and optics; physics, chemistry, natural history, book-keeping, moral and political philosophy, drawing and music. What more do you want?

VERY PERTINENT QUESTIONS.

The *Electric Teacher* asks: "Who are the 'crammers,' the 'routine' teachers, the 'fossils,' the 'parrot trainers,' the 'humbugs,' the 'shams,' the 'cheats,' the 'frauds?' They always receive their reward at educational gatherings; they are frequently mentioned in educational journals, yet we have never met one, male or female, who was willing to admit that he was meant when one of the above-named classes was mentioned. It is always understood that they are the teachers of some neighboring county, city or state—'they are none of us.' Why do not some of those speakers and writers say, 'They are "routine" teachers in Boston,' 'they are a set of "fossils" in Chicago,' 'they are "shams" in Louisville,' then we should send our reporter into their quarters for investigation. Quit croaking, or locate the disease."

The editor of the *Teacher* is answered in his own journal by his correspondent D. H., who says "that over sixty per cent. of the public school teachers of the whole country are mere recitation hearers, and one-half this number are failures even in that effort. What do they do? They simply hear (?) the spelling, reading, arithmetic and geography classes recite. What do the children recite? In spelling they spell orally or otherwise—it makes no difference—words, words, words, a large percentage of which they cannot define and never will have occasion to use. In reading they pronounce the words at sight (or after making a few blunders), being wholly unable to understand what they have read, to say nothing of the manner of delivery. In arithmetic they commit definitions to memory without being able to make any application of the terms defined; solve (?)—work the examples by rule, having no power to make even a remote practical application; get the table by heart, and, in addition, devote no little part of the time to the solving of wonderful puzzles presented by the 'master.' In geography they can tell you where Mts. Hecla and Vesuvius are, but cannot tell you whether they are land or water, a city or country; they can name and locate rivers and lakes without number, but can tell you nothing of their value to man. And on Friday afternoon, possibly daily, can march to a designated place on the floor, fold their arms and toe the mark, and at the same time present muddy clothes, dirty faces and unkempt hair, and 'the half has never been told.'"

If what D. H. says is true, it is not difficult to locate the disease affecting our public school teachers. Are there no "crammers" in Louisville? Blessed city! very near the educational heaven if there are none. That they are found in Boston, the very hub around which all "culture" and progress revolves, we know. They are numerous in New York City and Brooklyn, and it is said that they abound in Philadelphia. We *could*, on a pinch, find one or two good specimens in the State Normal Schools of New York. We could pick up some beautiful old fossils, well preserved, in the carboniferous formation of Pennsylvania, and from the broad prairies of the Central States we could collect quite a respectable cabinet. It is one peculiarity of a "fossil," a "cram," a "parrot," and a "cheat," that he never believes he is one. His personal identity is lost, and he insists he is somebody else. Locate him, and he isn't there. Pin him, and *presto*, you don't see him. You couldn't expect a thief to confess he is one. When placed on the witness stand, he will swear on a hundred Bibles he never stole a pin or anything else, although he was caught in the very act. Catch an old "crammer," an old "alphabet teacher," an old "grammatical grind," in the very act of uttering his counterfeit coin, and he will swear by all the stars that he always taught in accordance with Col. Parker's most approved Quincy methods. This educational disease is very curious, *very*. Our Association declaimers will fairly rave over the prevalence of "cramming," and then go home and cram, *cram, cram*, from September until July, as hard as they can, and then go to the Summer meetings and declare upon their word and honor that they are educational saints. From all educational hypocrisy, deliver us!—*Barnes' Educational Monthly.*

HOW TO SAY IT.

Say "I would rather walk," and not "I had rather walk."

Say "I doubt not but I shall," and not "I don't doubt but I shall."

Say "for you and me," and not "for you and I."

Say "whether I be present or not," and not "present or no."

Say "not that I know," and not "that I know of."

Say "return it to me." and not "return it back to me."

Say "I seldom see him," and not "that I seldom or ever see him."

Say "fewer friends," and not "less friends."
Say "if I mistake not," and not "if I am not mistaken."
Say "game is plentiful," and not "game is plenty."
Say "I am weak in comparison with you," and not "to you."
Say "it rains very fast," and not "very hard."
Say "It is primitive sense," and not "primary sense."
Say "he was noted for his violence," and not that "he was a man notorious for violence."
Say "thus much is true," and not "this much is true."
Say "I lifted it," and not "I lifted it up."

HOW HE'D DO IT.

Several men were gathered at the door of a blacksmith shop on Cass Avenue, Detroit, the other morning, when a school boy not over nine years of age came along with tears in his eyes, and one of the men asked—"What's the matter, boy—fall down?"

"N-no, but I've got a hard 'rithmetic lesson, and I expect to get l-licked!" was the answer.

"Let me see; I used to be a king-bee on fractions."

The man took the book, and turned to the page and read:

"RULE 1.—Find the least common multiple of the denominators of the fractions for the least common denominator. Divide this least common denominator by each denominator, and multiply both terms of the fractions by the quotient obtained by each denominator."

He read the rule aloud and asked if any one could understand it. All shook their heads, and he then continued:

"Well now, I think I should go to work to discover the least uncommon agitator. I would then evolve a parallel according to the intrinsic deviator and punctuate the thermometer."

"So would I!" answered every man in chorus, and one of them added: "I've worked 'em out that way a thousand times."

Not one of the men, all of whom were in business and had made money, could even understand the working of the rule, much less work examples by it, and yet it is expected that a nine-year-old boy should go to the blackboard and do every sum off-hand.—*Detroit Free Press.*

CALCULATING BOYS.

When Bidder was ten years old he answered in two minutes the following question: What is the interest of £4,444 for 4,444 days at 4½ per cent. per annum? The answer is £2,434 16s. 5½d. A few months later, when he was not yet eleven years old, he was asked, How long would a cistern one mile cube be filling if receiving from a river 120 gallons per minute without intermission? In two minutes he gave the correct answer—14,300 years, 285 days, 12 hours, and 46 minutes. A year later he divided correctly in less than a minute, 468,592,413,564 by 9,076. I have tried how long this takes me with pen and paper, and after an incorrect result in one and a quarter minute, went through the sum again, with correct result (51,629,838 and 5,875 over), in about the same time. At twelve years of age he answered in less than a minute the question, If a distance of 9¾ inches is passed over in a second of time, how many inches will be passed over in 364 days, 5 hours, 48 minutes, 55 seconds? Much more surprising, however, was his success, when thirteen years old, in dealing with the question, What is the cube root of 897,339,283,974,002,153? He obtained the answer in 2½ minutes, viz., 964,537. I do not believe one arithmetician in a thousand would get out this answer correctly in less than a quarter of an hour. But I confess I have not tried the experiment, feeling, indeed perfectly satisfied that I should not get the answer correctly in half a dozen trials. No date is given to the following case:—"The question was put, by Sir William Herschel, at Slough, near Windsor, to Master Bidder, and answered in one minute: Light travels from the sun to the earth in eight minutes, and the sun being 98,000,000 miles off (of course, this is quite wrong, but 60 years ago it was near enough to the accepted value), if light would take six years and four months travelling at the same rate from the nearest fixed star, how far is that star from the earth, reckoning 365 days and six hours to each year, and 28 days to each month?" The correct answer was quickly given to this pleasing question, viz., 40,633,740,000,000 miles. On one occasion, we learn, the proposer of a question was not satisfied with Bidder's answer. The boy said the answer was correct, and requested the proposer to work his sum over again. During the operation Bidder said he felt certain he was right, for he had worked the question in another way, and before the proposer found that he was wrong and Bidder right, the boy told the company that he had calculated the question by a third method.—*Belgravia.*

RULES FOR TEACHING THE USE OF LANGUAGE.

Primary language lessons, if taught in the true spirit, will develop thought, the power of correct expression and observation, and prepare the way for a very successful and profitable study of the analysis and grammatical forms of our language.

The following rules should be carefully followed:—

I. Proceed slowly. A little well taught is far better than much half understood.

II. After each lesson, require pupils to express their thoughts in their own language.

III. Be certain that the meaning of each word used is understood and its spelling learned.

IV. Read frequently an interesting story. Require it to be repeated in the pupil's own words, and then written. This exercise will call out the power of expression, impart self-confidence, discipline the memory, and give the teacher an excellent opportunity to make corrections.

V. Punctuation and the use of capital letters may be easily taught by example, aided by a few simple rules. Children learn that many things *are right* before they can tell *why*.

VI. The correct meaning of words is best taught by leading children to properly use those they understand. Many more can be added from time to time to the stock as they need to use them.

If these rules are followed, teachers cannot fail to be successful in teaching the use of language.

THINGS TO REMEMBER.

Remember, 1st, that in teaching, as well as in any other business, you must have a good deal of capital invested to obtain large proceeds.

2nd. Remember that your capital is your health, your education, your library, your determination to brighten and improve yourself, and your power to teach others.

3d. Remember that every good business man seeks to enlarge his business each year, by constantly investing more capital.

4th. Remember that good business men watch the market; they mark what others are doing, note how they do it, and take papers and journals that give specific information. You will be very short-sighted if you do not imitate their example.

5th. Business men often meet and consult—they have exchanges, boards of trade, hold fairs, etc. Teachers who do not pursue a similar line of conduct have themselves to blame when they fail.

6th. Remember that your work is a business in many respects, and must be conducted on business principles; that it does not consist in keeping your pupils still, and getting replies to questions, many of which you could not answer yourself.

7th. Remember that your work, if done aright, will make you a competent man or woman; it will, like any business, give you a better judgment, more information, and a wider range of thought.

8th. Remember that you ought to be more deeply interested in it every day, as every business man is in his business.—*Ex.*

THE LORD'S PRAYER.

When the elder Booth was residing in Baltimore, a pious, urbane old gentleman of that city, hearing of his wonderful power of elocution, one day invited him to dinner, although always deprecating the stage and all theatrical performances. A large company sat down at the table, and, on returning to the drawing-room, one of them asked Booth, as a special favor to them all, to repeat the Lord's Prayer. He signified his willingness to gratify them, and all eyes were fixed upon him. He slowly and reverently arose from his chair, trembling with the burden of two great conceptions. He had to realize the character, attributes, and presence of the

Almighty Being he was to address. He was to transform himself into a poor, sinning, stumbling, benighted, needy supplicant, offering homage, asking bread, pardon, light, and guidance. Says one of the company who was present, "It was wonderful to watch the play of emotions that convulsed his countenance. He became deathly pale, and his eyes turned trembling upward, were wet with tears. As yet he had not spoken. The silence could be felt; it had become absolutely painful, until at last the spell was broken as if by an electric shock, as his rich-toned voice syllabled forth, 'Our Father which art in Heaven,' &c., with a pathos and fervid solemnity which thrilled all hearts. He finished; the silence continued; not a voice was heard, nor a muscle moved in this rapt audience, until, from a remote corner of the room, a subdued sob was heard, and the old gentleman (the host) stepped forward with streaming eyes and tottering frame, and seized Booth by the hand. 'Sir,' said he, in broken accents, 'you have afforded me a pleasure for which my whole future life will feel grateful. I am an old man, and every day, from boyhood to the present time, I have repeated the Lord's Prayer; but I never heard it before, never!' 'You are right,' replied Booth; 'to read that prayer as it should be read, caused me the severest study and labor for thirty years, and I am far from satisfied with my rendering of that wonderful production. Hardly one person in ten thousand comprehends how much beauty, tenderness, and grandeur can be condensed in a space so simple. That prayer sufficiently illustrates the truth of the Bible, and stamps upon it the seal of divinity.'"

THE DISTRICT SCHOOLMASTER.

Josh Billings speaks of this much-abused personage as follows: There iz one man in the world to whome I always take off mi hat, and remane uncovered until he gits safely by, and that iz the distrikt schoolmaster. When I meet him I look on him as a marter just returned from the stake or on his way to be cooked. He leads a more lonesum and single life than an old bachelor. He iz remembered just about as long affecshinateli as a gide-board iz by a travelin pack pedlur. Iff he undertakes to make his scholarz luv him the chances are he will neglect their lurnin, and iff he dont lick 'em now and then prety often, they will soon lick him. The distrikt schoolmaster ain't got a friend on the flat side ov the globe. The boys snowball him durin' recess, the gir s put water in his hair-die, and the school cummitty makes him work for haf the money a bartender gets, and board him round the naborhood, where they give him rye coffy sweetened with molasses tew drink, and codfish bolls three times a day for vittles. Talk tew me about the pashunce of the ancient Job; Job had prety plenty uv biles all over him; no doubt they were all uv one breed. Every young one in a distrikt skule is a bile uv a different breed, and each young one needs a different kind of poultiss so get a good head on him. Every man who has kept distrikt school for ten years, and has borded around the naborhood ought to be majer general, and have a penshun for the rest uv hiz natural days, a hoss and wagon tu du his goin round in.

SOME POINTS FOR YOUNG TEACHERS.

1. Speak to the pupil seven times, *privately*, before you punish him.
2. Punish him privately seven times before you make a public culprit of him.
3. By this time your patience and fairness will be established, and the sympathy of the pupils will be strongly with you.
4. Reprimand publicly seven times before you punish publicly.
5. Punish publicly seven times before you suspend a pupil.
6. Between these times consult with parents and familiarize yourself with the home conditions.
7. This may modify your judgment and awaken your sympathies.
8. Suspend a pupil seven times before you expel him.
9. Admit him always on his promise to you to do better.
10. When you do expel, make it an impressive matter by having the school trustees present, and by giving a full account of your continued efforts in his behalf, his persistent incorrigibility, your hesitation and sadness at being compelled to deprive him of the most precious privilege he enjoys, the school; finally, pronounce judgment in serious, subdued tones, commanding the boy to take his books, leave the room and not return during this term, giving him to understand that all is done with the knowledge and sanction of the trustees.
11. Such a scene should not occur *more* than once in one term. It should not occur once.—*Normal Teacher.*

QUESTIONS IN LOCAL GEOGRAPHY.

1. What manufactories have you visited?
2. What is most extensively manufactured?
3. Where are the things made sold?
4. What is a grist mill?
5. What is made out of wheat?
6. What is wheat worth now?
7. How many bushels make a barrel?
8. What is a barrel of good flour worth?
9. What kinds of fish have you caught?
10. Beef, mutton, pork, ham, veal—from what animal does each come?
11. What wood is most used here?
12. Where does it come from?
13. What substance is most used in building houses here?
14. How does your father earn a living?
15. What officers that you know are elected?
16. When are they elected?
17. What kinds of fruit do you buy?
18. Where are they raised?
19. How could you earn any money?

Does it Pay to Hire Cheap School Teachers?—A man tries to be a farmer and fails; tries to be a lawyer, fails; tries to be a minister and is not even good enough for that; but one thing he can do—he can be a schoolmaster. And as you will find throughout the country schoolmasters are selected because they are cheap. You can get him for $10 a month found. Shame on the parsimony that would take a cent from the pay of the men or women employed as teachers. If there is any profession which should be made absolutely independent of all care as to the means of living it is that. I do not undervalue my own, but I think that the schoolmaster stands nearer God than a minister can. For myself, I hated the school, I hated it in my mind, I hated it in my body, I hated it in my affections. I had no religious nature, so I could not hate it in that. I hated school, and yet there came a summer in old Litchfield when in spite of tears and protestations I was sent out of the house and to school, and I found a school ma'am comely though with a very pale face, and young—not over eighteen—who met me at the door and patted me on the head and played with my curly hair, and she sat me down at her feet and made me happy. She was taken sick and died, but while she taught was the only pleasant time I ever had in school. There is no economy so penurious, no wrong so intolerable as that which cuts down the pay of the teacher, and simply because they with whom they have to do are only children. Only children! Whose children? Your children, my children, God's children, the sweetest blossoms in the garden of the world, for whom angels may be proud to do service. If they are neglected you are to blame, for if you cared enough about it, it would never happen.—*Henry Ward Beecher.*

—The following is a Teacher's Lesson on Participles and Infinitives, taken from the *Wisconsin Journal of Education:*

1. The bell *having rung*, we started.
2. *To go prepared*, is well.
3. It is *to be deplored.*
4. I grieve *to hear* you say so.
5. It is good enough *to tell.*
6. He learns *to read.*
7. He knows better than *to venture.*
8. He knows when *to purchase.*
9. He reads *to learn.*
10. By carefully *reading* a book, we gain its thought.
11. It is *freezing* cold.

12. This is *surprising*.
13. The ship is about to *sail*.
14. For you *to deceive* me so is unwise.
15. *Writing* Greek is hard.
16. I wish *to come to stay*.
17. His *being* an enemy makes no difference.
18. He left the horse *tied* to a tree.
19. His name, *unsullied* by any stain, is *honored*.
20. Business promptly *attended* to here.
21. When *to assault*, and how *to defend*, must be learned by every leader.
22. It is too hard *to learn*.
23. It is difficult *to make* a cat take to *swimming*.
24. The sun is so warm as *to dissolve* the snow.
25. *To be*, or not *to be*, that is the question.
26. The boy came *running* home.

COUNTY OF LINCOLN PROMOTION EXAMINATIONS.

MARCH 24TH AND 25TH, 1881.

ARITHMETIC.

FROM 2ND TO 3RD CLASS.

1. Add four hundred and one, sixty-seven, three thousand and nineteen, sixty-four thousand six hundred and eight, seven hundred, six thousand and eleven.
2. A man owing 1500 dollars, paid at one time 329 dollars, and at another 798 dollars: how much does he still owe?
3. If a man pays 6540 dollars for building 1 mile of railroad, how much should he pay for building 307 miles?
4. A farmer sold 39 cows at 45 dollars each, and receives in payment 1179 dollars: how much is yet to be paid him?
5. From 605706 take 19077, and multiply the remainder by 400,
6. I bought a house for 10249 dollars, and sold it for 12150 dollars: how much did I gain?

Values—10 each, and 10 additional for a neat paper; full work required.

JUNIOR 3RD TO SENIOR 3RD CLASS.

Values.	
10	1. A man bought 95 cows at $37.25 each, and sold them at $40 each; how much did he gain?
10	2. A person earns $3.25 a day, and pays 75 cents for board; in how many days will he save $912.50?
10	3. If I buy 17 lbs. of sugar at 10 cents a pound, how much change will I receive back out of a $5 bill, and how many oranges at 3 cents each might I receive for my change?
15	4. A merchant sold 27 yards calico at 13 cents a yard, 45 yards muslin at 18 cents, 16 yards linen at 45 cents; he took in exchange 12 bushels potatoes at 65 cts.; 3 barrels of apples at $2.25, and the balance in cash; how much cash did he receive?
10	5. A man has $10,000; he buys a house worth $4,829.36, and with the remainder buys 4 lots; how much does he pay for each lot?
5	6. Divide the product of 810 and 705 by 81.

Ten marks additional for neatness.

FROM 3RD TO 4TH CLASS.

Values.	
10	1. If from 2 lbs. of silver enough is taken to make a dozen spoons, weighing 1 oz. 10 dwt. 2 gr. each, how much will be left?
10	2. If 1 acre will produce 23 bush., 3 pks., 3 qts. of wheat, what will a field of 24 acres produce?
10	3. If 3 qrs. 24 lbs. cost £4 16s. 8d., how much is that per pound?
15	4. How much land will be left out of a field of 12 ac. 3 rds. 26 sq. rods, if a lot is fenced off it measuring 2 ac. 37 sq. rds. 27 sq. yds.?
15	5. If a man travel 14 miles, 3 fur. 22 rds. 3 yds. 2 ft. in one day, how far will he travel in 7 days?
15	6. How many bushels of grain in 1,800 lbs. of wheat, 680 lbs. of oats, 960 lbs. of barley, 600 lbs. of peas, and 1,120 lbs. of corn?

Ten marks additional for neatness.

FROM 4TH TO 5TH CLASS.

Values.	
10	1. Simplify $\dfrac{1\cdot\dot{6} \text{ of } 2\cdot75 - 3\cdot8}{1\cdot\dot{6} \div 2\cdot75 \text{ of } 3\cdot8}$
10	2. A tree 140 feet in length was broken in two pieces by falling, and $\frac{8}{21}$ of the longer piece was equal to $\frac{4}{7}$ of the shorter; find the length of each piece.
10	3. Reduce $\frac{2}{3}$ of $7\frac{1}{2}$ of ·36 of $1\frac{10}{11}$ of 3 miles, 1 fur., 5 per., to inches.
10	4. If six articles cost $14.30, how much will 13 cost at the same rate?
10	5. A man buys 25 sheep at $144, and 30 more for $184; what will he gain or lose by selling them at $6.10 a piece?
10	6. Find the expense of papering a room 30ft. 6 in. long, 24 ft. 3 in. broad, and 11 ft. high, the paper being 2 ft. 3 in. wide, at 31 cents a square yard?
10	7. There are 4 village lots; the first contains $\frac{4}{3}$ of $\frac{2}{5}$ of an acre, the second $40\frac{2}{3}$ rods, the third $\frac{1}{7}$ of an acre, and the fourth $\frac{3}{7}$ of $\frac{5}{8}$ of an acre; find how much land in the four lots. Express the answer in acres, roods, etc.

Ten marks additional for neatness.

GRAMMAR.

JUNIOR 3RD TO SENIOR 3RD CLASS.

Values.	
40	1. Give lists of the nouns and adjectives on page 32 of the reading book, from the beginning of the lesson to the bottom of the page. N.B.—The adjectives *a* and *the* not to be counted.
8	2. Divide the following sentences into subject and predicate: The dazzling splendor of the sun was reflected from the water. The whole country was covered with snow. You can show me the place. In a distant country he died.
8	3. Supply predicates for the following subjects: The boy. Our lesson for to-day. The wild animals of America. The Atlantic Ocean.
8	4. Supply subjects for the following predicates: —— jumped over the fence. —— is very cold. —— sailed around the world. —— died.

FROM 3RD TO 4TH CLASS.

Values.	
8	1. Compare the following adjectives, making a separate list of those that cannot be compared: Beautiful, great, awful, perfect, little, universal, bad, angry.
12	2. Analyze the following sentences: Poverty, wealth, and squalid misery flourished together. I saw him no more until the next day. The clouds around the setting sun assumed a new appearance soon after the rain.
8	3. Give a list of the adverbs in the above sentences, and the words they modify.
6	Give the prepositions also, and state what words they join.
26	4. Classify the parts of speech in the first two verses on page 192 of the third reader, leaving out the adjectives *a* and *the*.

FROM 4TH TO 5TH CLASS.

Page 222 of the Fourth Reader, from "As the baggage horses" to "Movement in the centre."

Values.	
20	1. Write out each proposition in the above extract separately, stating its kind and relation; and analyze fully the first and last propositions.
35	2. Parse—"Released from this unsociable companion, he soon arrived at a French post, where the sentinel requested his permission to ask for his passport."
15	3. Correct the following, where necessary, giving your reason: (a) We do not want no strangers here. (b) Was you at the lecture last night? (c) I never seen such a crowd as there was collected. (d) Ask leave for you and I to go home at noon. (e) I do not know how it was done or who done it.
10	4. Describe the different kinds of nominative case, and give an example of each.

ENGLISH HISTORY.

FROM 4TH TO 5TH CLASS.

1. What were the changes in the manners and customs of the Britons made by the Romans?
2. In whose reign did these eminent men live, and for what is each of them distinguished? Cardinal Wolsey, Sir Francis Drake, John Hampden, Duke of Wellington.
3. What was the cause of the civil war in the reign of Charles I.? What was the result of it?
4. Name the sovereigns of England from William the Conqueror to Henry VII.

SPELLING.

FROM 2ND TO 3RD CLASS.

(*Not to be seen by pupils.*)

1. Robin Redbreast and Jenny Wren.
2. Three jars of steaming soup.
3. The shrill, piercing tones of Tiny's voice.
4. Moses was the leader of the children of Israel in their wanderings.
5. Your uncles and cousins and aunts.
6. Clothed in complete armor.
7. Presence of mind and courage.
8. Finished painting a portion of the ceiling.
9. In a crack near the cupboard with dainties provided.
10. He could scarcely swallow them.
11. After wringing the water from his hair he resumed his coat.
12. The guardsman foraged in his pocket.
13. First, second, third, fourth.
14. She was pleasantly surprised.
15. I don't know, said Robert, hesitating for an excuse.
16. Suppose the glistening dew-drop.
17. A little mischief-making elfin.
18. Gaining knowledge by asking questions.
19. He perceived his master swimming toward him.
20. He lived in a far-off country.
21. His friend perceived his danger.
22. Dick made a liberal and proper use of his wealth.
23. A rustling in the leaves and a crashing of branches.
24. Kicked up his hind legs and galloped away.
25. Little enemies are sometimes very troublesome.

Value of paper, 50—two marks off for each mistake.
Reading—value, 40. Writing—value, 30.

JUNIOR 3RD TO SENIOR 3RD CLASS.

(*Not to be seen by pupils.*)

1. Notwithstanding his vigorous efforts.
2. For I can weather the roughest gale.
3. Her rattling shrouds all sheathed in ice.
4. I passed the day in meditation and prayer.
5. A strange assertion, said the merchant, but where are the jewels?
6. Her grandmother looked calmly and smilingly on her.
7. How little they appreciate their privileges.
8. John Adams, the second President of the United States.
9. Tom continued his description in a hoarse whisper.
10. She went in a heavy sea to rescue the distressed passengers.
11. Saved many little creatures from being tortured to death.
12. The ingenious boy trained some partridges.
13. Engaged in gathering a species of mushrooms.
14. Many persons pursue with eagerness.
15. The intelligence of their four-footed friend.
16. Exhibiting his wrath.
17. Displayed their long triangular teeth.
18. And a most Christian vengeance it was.
19. He volunteered the answer immediately afterwards.
20. The excitement became intense.
21. He quietly sneaked into the house.
22. Enterprising individuals have tried the experiment.

Value, 50—two marks off for each mistake.
Reading—40. Spelling—40.

FROM 3RD TO 4TH CLASS.

(*Not to be seen by pupils.*)

1. Assiduous attention.
2. The original lumberman and the first hydraulic engineers.
3. Efficiently and economically.
4. No slackening of the pace occurred.
5. The smoke encircled his head like a wreath.
6. They are dreadfully superstitious.
7. A tablet commemorates his heroism.
8. They were providentially despatched in search of me.
9. The war-whoop of his fierce enemies.
10. A big, coarse-looking, disagreeable man.
11. Some hauled, might and main, at the boats.
12. An extraordinary state of excitement.
13. Pemican is found extensively throughout Rupert's Land.
14. Desperate encounters with grizzly bears.
15. Efforts to remedy this deficiency.
16. He became the executioner of his comrades.
17. The slow operations of the siege.
18. Skilfully fortified and defended by a sufficient garrison.
19. They threw themselves over the precipice.
20. A triumphant yet dignified expression.
21. Sunday, Monday, Tuesday, Wednesday, Thursday, Friday, Saturday.
22. January, February, April, September, October, December.

Value, 50—two marks off for each mistake.
Reading—40. Writing—40.

FROM 4TH TO 5TH CLASS.

DICTATION.

Page 230 of the Fourth Reader, from "after the banquet" to "mingled confusedly together."

Value 50—four marks off for each mistake.

COMPOSITION.

Page 150 of the Fourth Reader. After having the lesson read to them once, let the pupils relate the incident in their own words.

Value—50 marks.
Reading—50. Writing—50.

GEOGRAPHY.

JUNIOR 3RD TO SENIOR 3RD CLASS.

Values.	
20	1—Name ten islands near the continent of Europe and name the water surrounding each one; also ten islands near America, with their surrounding waters.
10	2—Give the direction the following rivers flow, and the waters they flow into: Niagara, St. Lawrence, Mississippi, Amazon, Parana, Volga, Indus, Euphrates, Ganges, Nile.
20	3—Name ten channels or straits in Europe and the different waters they connect; three in America; two in Asia.
10	4—Name two isthmuses, stating what bodies of land they join and what waters they separate.

Ten marks additional for a neat paper.

FROM 3RD TO 4TH CLASS.

Values.	
10	1—Name the cities in Ontario and the United States standing on the shores of the great lakes.

8	2—Name the large cities on the Atlantic and Pacific coasts of North America.
15	3—Name the tributaries of the St. Lawrence, Mississippi and Amazon rivers.
8	4—Name the waters a ship must pass through in sailing from the Black Sea to New York.
10	5—Name the islands and island groups off the east coast of Asia.
9	6—How can a ship pass from the Indian Ocean into the Mediterranean Sea?
	Ten marks additional for neatness.

FROM 4TH TO 5TH CLASS.

Values.	
20	1—Name the counties and principal towns through which the Great Western Railway passes from Suspension Bridge to Toronto; and those traversed by the Grand Trunk Railway from Toronto to Montreal.
10	2—Name ten of the largest cities in Europe and give their exact situation.
10	3—Name all the British settlements in Africa and descri e the positions of the Transvaal.
12	4—What is the population of China, of Hindostan; and what are the religious beliefs of the people, their color, and their staple article of food?
8	5—What is the boundary line between Manitoba and the United States?
20	6—What and where are Oporto, Glasgow, Havre, New Orleans, Sacramento, Naples, Sumatra, Tasmania, Cormorin and Malta?
	Ten marks additional for neatness.

PUPIL TEACHERS' EXAMINATION PAPERS, JANUARY, 1881.

CANDIDATES.

THREE-AND-A-HALF *hours allowed.*

ARITHMETIC.

MALES.

1. Find the value of 694 cwt. 1 qr. 14½ lbs. at £3 19s. 4d. per cwt.

2. If the tax on £335 7s. 6d. amounts to £58 13s. 9¾d., what is that in the pound?

3. A besieged town containing 22,400 inhabitants has provisions to last for three weeks; how many must be sent away in order that the city may hold out for seven weeks?

4. A ceremony attended by a number of persons from a distance extends over 2 days. The first day the railway conveys 285 first-class and 3,085 third-class passengers, charging 2s. 8d. for each of the former, and 1s. 7½d. for each of the latter. The second day, in hopes of larger receipts, the railway issues tickets at the uniform price of 1s., and conveys 6,009 passengers. Find the difference in the sums taken on the first and on the second day.

FEMALES.

1. Find by practice the value of eighty dozen pair of boots at 19s. 7½d. per pair.

2. Find the value of 1,527 cwt. 2 qrs. 16 lbs. of sugar at 3½ guineas a cwt.

3. Make out a bill for the following:—

62½ tons of hay at £3 15s. per ton.
41¼ qrs. of beans at £2 2s. per qr.
53¾ qrs. of oats at £1 6s. per qr.
25 sacks of flour at £1 7s. 6d. per sack.
37½ tons of potatoes at £4 2s. 6d. per ton.

4. Find the rent for 61 months 1 week 4 days at £3 0s. 6d. per month of 4 weeks.

GRAMMAR.

1. Parse all the verbs and adjectives in the following:—

"It is sad to see an infant fade
Beneath our very gaze,
As a lily in some poisonous shade,
Droops, withers, and decays;
It is sad to see the eye's pure light
Grow fainter day by day."

2. Plurals are sometimes formed from the singular by a change in the body of the word. Give examples of this.

3. Adjectives of number are sometimes used as adjectives, sometimes as nouns. Give examples of each.

GEOGRAPHY.

1. Mention the different names given to openings in the land and to narrow passages of water on the coasts of Great Britain and Ireland; and give examples of the use of each term, describing exactly where each of them is.

2. Trace minutely the line of *water-parting* which separates the basins of the Thames and Severn from those of rivers flowing into the English Channel, and mention these rivers in order.

3. Say what you know about the Orkneys and Shetlands, the Hebrides, the Isle of Man, Anglesea, the Isle of Wight, and the Channel Islands.

Draw a map, *if you can,* in illustration of any one of your answers.

COMPOSITION.

Write, from dictation, the passage given out by the Inspector:—

The eagles were at rest | on their rocky ledge | a thousand feet | above the waters. | The herons had left | the several promontories, and the flapping of their wings overhead | was no more heard. | The raven was gone home; | the cattle were all | far away on the mountain pasture; | the goats hidden in the woods | which yielded the tender shoots | on which they subsisted. | The round eyes of a white owl | stared out upon him | here and there, | from under the eaves | of a farm-hou e, | and these seemed to be | the only eyes besides his own | that were open. | The inhabitants were all asleep, | even with sunshine | lying across their very faces.

PENMANSHIP.

Write, in large hand, as a specimen of copy-setting, the word *Versatility.*

Write, in small hand, as a specimen of copy-setting, "*Stirred up by Dorset, Buckingham, and Martons, he comes.*"

PUPIL TEACHERS AT END OF FIRST YEAR.

THREE-AND-A-HALF *hours allowed.*

ARITHMETIC.

MALES.

1. Reduce 18 furlongs 3 poles 3½ yards to the decimal of one mile; and 4 ft. 6 in. to the decimal of 3 yds. 2 ft.

2. If 1,191 tons 10 cwt. 1 qr. 14 lbs. cost £595 15s. 2¼d., what is the cost of half a million tons? Work this by fractions.

3. A farmer has 295 more sheep than cows, and this difference is $\frac{59}{65}$ of the number of sheep he possesses: how many cows has he?

4. In exchange for 1 cwt. of coffee at 1s. 6d. per lb., how much money would you expect to receive along with 18 lbs. of tea at $\cdot\dot{4}2857\dot{1}$ of a guinea per lb.?

5. Find the greatest common measure of 805 and 1,311; and the least common multiple of 16,863 and 21,489.

FEMALES.

1. How many yards of lace can I buy for £685 17s. 9d., at the rate of five guineas for 12¾ yards?

2. If, after paying income tax at 1s. 2d. in the pound, a gentleman has £701 10s. 10d. remaining, what is his annual custom?

3. If £69 0s. 11½d. pays the carriage of 47 tons 8 cwt. 33 lbs. of goods for 764 miles, what weight would be carried 573 miles for the same sum?

4. If 72 oxen require 18 acres of turnips to supply them for 30 weeks, how many acres would supply 18 score of sheep for 45 weeks, on the supposition that 9 oxen eat as much as 30 sheep?

GRAMMAR.

1. What are the two kinds of participles? Describe them, and give examples of each.

2. Parse the pronouns in the following:—

"Which pillage they with merry march bring home
To the tent royal of their Emperor."

3. The words *each* and *other* are used both as adjectives and as pronouns; give examples of them in both uses.

4. Give notes of a simple lesson on *Adve. bs,* suited to Standard IV.

GEOGRAPHY.

Answer *either* Q. 1 *or* Q. 3, *not both.*

1. Trace minutely the line of *water-parting* which separates the basins of the Thames and Severn from those of rivers flowing into the English Channel, and describe those rivers in order.

2. Draw a full map of the coast from Cape Spartivento to Cape Matapan.

3. Describe, as fully as you can, the physical features, chief divisions, towns, and manufactures of the Austrian empire. What title does the Sovereign bear at Vienna, and what at Buda-Pesth? Why are they different?

HISTORY.

1. Give the dates of Henry I., Richard II., Richard III., and Elizabeth, and name their immediate successors.

2. Write out a list of our Sovereigns from Charles I. to Anne, with dates.

3. Why is this called the nineteenth century? When did it begin and when will it end?

PENMANSHIP.

Same exercise as that set for candidates.

COMPOSITION.

Write from memory the substance of the passage read to you by the Inspector.

In general, a word from the keeper is sufficient to encourage that intelligent creature, the elephant, to perform the task assigned to it. In India, where elephants were once employed in launching ships, one of them was directed to force a large vessel into the water, which task proving superior to his strength, the master, in an angry tone, cried out: "Take away that lazy beast, and bring another in its place!" The poor animal instantly redoubled its efforts, fractured its skull, and died upon the spot.

PUPIL TEACHERS AT END OF SECOND YEAR (*if apprenticed on, or after, 1st May, 1878*), AND PUPIL TEACHERS AT END OF THIRD YEAR (*if apprenticed before that date*).

THREE-AND-A-HALF *hours allowed.*

ARITHMETIC.

MALES.

1. I sell 185 bushels of wheat for £53 3s. 9d., thus gaining 15 per cent. At what price per bushel did I buy the wheat?

2. Having £825, I lend it at $3\frac{1}{2}$ per cent. simple interest. In how many years will it amount to £1,000, and what amount shall I have to receive at the end of thirty years, nothing having been paid in the meantime?

3. £91·6 amounts in 3·5 years to £105·302083, what is the rate per cent. per annum simple interest?

4. How must nutmegs which cost 18·75s. a lb. be sold so as to gain 16 per cent.?

5. A plumber sold 96 cwt. of lead for £109 2s. 6d., and gained at the rate of $12\frac{1}{2}$ per cent. What did the lead cost him per cwt.?

FEMALES.

1. Find the least common denominator of

$$\frac{5}{27},\ \frac{11}{24},\ \frac{5}{6},\ \frac{4}{15},\ \text{and}\ \frac{3}{5}.$$

2. What number added to $\frac{7}{8} + \frac{5}{12}$ will give $2\frac{1}{8}$.

3. Simplify—

$$\left(2\tfrac{3}{4} + \tfrac{5}{2}\ \text{of}\ \frac{7}{3\frac{4}{5}} - \frac{1\frac{2}{3}}{2\frac{1}{2}}\right) 1\tfrac{77}{228}.$$

4. If a person travelling $13\frac{3}{4}$ hours a day perform a journey in $27\frac{5}{8}$ days, in what time will he perform the same if he travel $10\frac{2}{7}$ hours a day?

GRAMMAR.

1. And oh! when passion rules—how rare
The hours that fall to virtue's share!

Analyse the above, supplying what is needed in the principal sentence, and taking care in your analysis to point out the character of each sentence.

2. Give examples of conjunctions of time, and frame passages with such conjunctions introduced, to show their use.

3. Parse each word in the following—

"The evil that men do lives after them."

4. Give notes of a lesson on transitive and intransitive verbs suited to Standard IV. or V.

GEOGRAPHY.

Answer *two* questions only.

1. Describe, as fully as you can, the physical features, chief divisions, towns, and manufactures of the Austrian empire. What title does the Sovereign bear at Vienna, and what at Buda-Pesth? Why are they different?

2. Draw a full map of the Basin of the Ganges, marking its tributaries and chief towns, and noting the point at which the course of the Jumna is nearest that of the Sutlej.

3. Give notes of a lesson on this sentence:—"*All Europeans who live in Calcutta or Madras escape to the hills, if they can, for the hot season.*"

Arrange your notes under these heads:—

(*a*) Who are meant "by Europeans"? And why are they in India?

(*b*) Where are Calcutta and Madras? Why are they unhealthy in the hot season?

(*c*) What is "the hot season"? And what are the causes of it?

(*d*) What hills can they go to? Mention any places in the hills.

ONE *hour allowed for females.*

TWO-AND-A-HALF *hours allowed for males.*

HISTORY.

1. What was the extent in time and territory of the Roman occupation of Britain? Compare the condition of the Romans and the Britons nineteen centuries ago.

2. Mention circumstances in the internal condition of England which facilitated the Norman Conquest.

3. Describe the end of Richard II., and tell how the Crown was settled after that event.

PENMANSHIP.

Same exercise as that set for Candidates.

COMPOSITION.

Write full notes of a lesson on *A desert.*

EUCLID.

[All generally understood abbreviations for *words* may be used, but not symbols of *operations*, such as $-$, $+$, $\times$.]

In solving a rider, only the proposition to which it is appended, and preceding propositions, may be referred to.

1. If two triangles have two sides of the one equal to two sides of the other, each to each, and have likewise the angles contained by those sides equal to each other; they shall likewise have their bases or third sides equal, and the two triangles shall be equal, and their other angles shall be equal, each to each, viz., those to which the equal sides are opposite.

ABDE, BFGC are squares on two sides of the triangle ABC, and AF, CD are joined. Show that AF, CD are equal.

2. The greater side of every triangle is opposite the greater angle. Point out where the *demonstration* begins.

PUPIL TEACHERS AT END OF THIRD YEAR (*if apprenticed on, or after, May 1st, 1878*), AND PUPIL TEACHERS AT END OF FOURTH YEAR (*if apprenticed before that date*).

THREE-AND-A-HALF *hours allowed.*

ARITHMETIC.

MALES.

1. A. gives B. £63 17s. 6d. as payment of a loan and interest, at the rate of $3\frac{3}{4}$ per cent. The money was lent $3\frac{3}{4}$ years before. What was the amount of the loan?

2. A person has $\frac{1}{7}$ of a ship worth £6,600, and insured for 91·25 per cent. of its real value. What amount of damage would he sustain in case of the ship being lost?

3. £825 for :825 of a year at 8·25 per cent. Find simple interest and amount.

4. At what price per yard must cloth be sold to gain 17 per cent. if by selling 109 yards of it for £46 6s. 6d., 8 per cent. be gained?

5. Divide £10,000 among A., B., C. so that A. may have half as much again as B., and B. a third as much again as C.

FEMALES.

1. Find the sum, difference, product, and quotient—the greater being divided by the less—of 1.015 and ·01015.

2. Find the difference between $6\frac{1}{2}$ half guineas and £3,525; and reduce the result to the decimal of a crown.

3. Add $5\frac{1}{2}$ cwts. to 3·125 qrs.; and reduce the sum to the decimal of a ton.

GRAMMAR.

1. Words or phrases attached to the nouns of a sentence are called *enlargements*, attached to the verbs they are called *extensions*. Give two examples of each.

2. "Dost thou so *hunger* for my empty chair
That thou wilt *needs invest* thee with my honours?
Stay but a little; for my cloud of dignity
Is held from *falling* with so weak a wind
That it will quickly drop."—SHAKESPEARE—*Henry IV.*

(*a*) Analyse the last three lines.
(*b*) Parse the words in italics.
(*c*) Give the meaning of the above passage in your own words, explaining so far as you can the figures and metaphors.

3. What are the Latin prepositions that mean *out of, from, under*? Give examples of words in which they occur, pointing out the force of the preposition in each case.

GEOGRAPHY.

Answer two questions only; but Nos. 1 and 2 *if you can.*

1. Give notes of a lesson on this sentence:—"*All Europeans who live in Calcutta or Madras escape to the hills, if they can, for the hot season.*"

Arrange your notes under these heads:—
(*a*) Who are meant by "Europeans," and why are they in India?
(*b*) Where are Calcutta and Madras? Describe *exactly* the situation of each.
(*c*) What is the hot season, and what are the causes of it?
(*d*) What hills can they go to? Name any places in the hills.

2. Draw a map, shewing the course of the Senegal and the Quorra or Niger, and the coast line between their mouths.

3. Describe the East Coast of Africa, and the islands opposite to it.

ONE *hour allowed for females.*
TWO-AND-A-HALF *hours allowed for males.*

HISTORY.

1. Explain the relations of Mary Stuart to the thrones of Scotland, England, and France.

2. How did Charles I. regard Parliament? What were the consequences?

3. Show the descent of Queen Victoria from James I.; and compare the extent of dominion of the two monarchs.

PENMANSHIP.

Same exercise as that set for Candidates.

COMPOSITION.

Write from memory the substance of the passage read to you by the Inspector:—

After Romulus had reigned over Rome nearly forty years, he one day called his people together in the field of Mars, near the Goat's Pool, when, all on a sudden, there arose a dreadful storm, with darkness, and thunder, and lightning, so that all the people fled in terror from the field and ran to their several homes. At last the storm was over, and they came back to the field of Mars; but Romulus was nowhere to be found, for Mars, his father, had carried him up to heaven in his chariot. The people knew not at first what was become of him; but when it was night, as a certain man was coming from the country to the city, Romulus appeared to him in more than mortal beauty, and grown to more than mortal stature, and said to him: "Go and tell my people that they weep not for me any more; but bid them to be brave and warlike, and so shall they make my city the greatest in the earth."

EUCLID.

[All generally understood abbreviations for *words* may be used, but not symbols of *operations*, such as $-$, $+$, $\times$.]

1. If a side of a triangle be produced, the exterior angle is equal to the two interior and opposite angles; and the three interior angles of every triangle are together equal to two right angles. The difference of the angles at the base of any triangle is double the angle contained by two lines drawn from the vertex, one bisecting the vertical angle, the other perpendicular to the base.

2. Equal triangles upon the same base and upon the same side of it are between the same parallels.

Point out where the *demonstration* begins.

ALGEBRA.

1. Simplify $a-(b-c)-\{b-(a-c)\}-[a-\{2b-(a-c)\}]$; and shew that

$$\frac{a+b}{(a-b)(x-a)}-\frac{b+c}{(a-b)(x-b)}=\frac{x+c}{(x-a)(x-b)}.$$

2. Find the G.C.M. of $a^3(b^4-b^2c^2)$ and $b^3(ab+ac)^2$.

3. Solve the equations:—

$$(1)\quad \frac{7\cdot1-3x}{\cdot5}-\cdot8x=9\cdot44.$$

$$(2)\quad \frac{12}{x}+\frac{1}{12x}=\frac{29}{24}.$$

PUPIL TEACHERS AT END OF FOURTH YEAR (*if apprenticed on, or after, 1st May, 1878*) AND PUPIL TEACHERS AT END OF FIFTH YEAR (*if apprenticed before that date*).

THREE-AND-A-HALF *hours allowed.*

ARITHMETIC.

MALES.

1. Three persons rent a piece of land for £60 10s., the first puts in 5 sheep for $4\frac{1}{2}$ months, the second 8 sheep for 5 months, the third 9 sheep for $6\frac{1}{2}$ months; what share should each pay of the rent?

2. Compare the incomes to be derived from investing £3,500 in the $3\frac{1}{2}$ per cents at 98, and £3,995 in the same stock at $99\frac{7}{8}$.

3. If teas at 2s. 9d., 3s. 3d., 2s. 4d. respectively be mixed in equal quantities, and the mixture be sold at 16 guineas per cwt., what will be the gain or loss per cent.?

4. What per-centage on $\sqrt[3]{1,000,000,000}$ is $\sqrt{112}\times\sqrt{175}$?

5. Find two decimal fractions together equal to $\frac{1}{15}$, and such that one shall be $\frac{1}{15}$ of the other.

FEMALES.

1. What sum of money will amount to £256 10s. in four years at $3\frac{1}{2}$ per cent. simple interest?

2. If a man travel 198 miles by railway for £2 9s. 6d., how far at the same rate of charge ought he to be carried for £8 0s. $10\frac{1}{2}$d.?

3. The price of a work which comes out in parts is £2 16s. 8d.; but if the price of each part was 13d. more than it is, the price of the work would be £3 7s. 7d. How many parts are there?

4. Divide £11,000 among four persons—A., B., C., D.—in the proportions of $\frac{1}{2}$, $\frac{1}{3}$, $\frac{1}{4}$, and $\frac{1}{5}$.

GRAMMAR.

1. "And to a pleasant grove I 'gan to pass
Long *ere* the brightë sun *uprisen* was;
In which were oakës great, straight *as* a line,
Under the which the grass, so fresh of hue,
Was newly *sprung; and an eight foot or nine*
Every tree well from his fellow grew,
With branchës broad, laden with leavës new,
That sprangen out against thes unnë sheen;
Some very red; and some a glad light green;
Which, as *me thought*, was a right pleasant sight."
CHAUCER, "The Flower and the Leaf."

(*a*) Notice any points in which the English of the above passage differs from modern English.
(*b*) How many sentences are there in it, and by what means are they connected?
(*c*) Name the particular kind of sentence to which each belongs.
(*d*) Parse the words in italics.

2. Give the origin (old English derivation) of the following words: *ought, must, durst,* and of *better, worst, least, cunning.*

GEOGRAPHY.

1. Give notes of a lesson on "Central America," and illustrate it by a map.

2. Describe fully the Indian Ocean, with the seas, gulfs, and bays connected with it, its chief currents and periodical winds.

ONE *hour allowed for females.*
TWO-AND-A-HALF *hours allowed for males.*

HISTORY.

1. What families have occupied the throne of England since 1066, and from what countries did they severally spring?

2. Mention the chief foreign possessions of the British Crown, and tell when they were severally acquired.

3. Give some account of the chief manufactures of England. Tell in what parts of the kingdom they are now carried on, and point out any changes which have taken place in this respect.

PENMANSHIP.

Same exercise as that set for Candidates.

COMPOSITION.

Write an essay on *The difference between Trades and Professions.*

EUCLID.

[The only abbreviation allowed for "the square on AB" is "sq. on AB," and for "the rectangle contained by AB and CD" "rect. AB, CD."]

1. Upon the same base, and on the same side of it, there cannot be two triangles that have their sides which are terminated in one extremity of the base, equal to one another, and likewise those which are terminated in the other extremity.

2 If a straight line be divided into two equal parts, and also into two unequal parts, the rectangle contained by the unequal parts, together with the square on the line between the points of section, is equal to the square on half the line.

3. If from the right angle of a right-angled triangle lines be drawn to the opposite angles of the square described on the hypotenuse, the difference of the squares on these lines is equal to the differences of the squares on the two sides of the triangle.

[Use II. 12.]

ALGEBRA.

1. Reduce to lowest terms $\frac{9x^3+6x^2-2x-4}{12x^3-5x^2-4x-4}$.

2. An express train leaves London for Manchester (188 miles) at 9 a.m., travelling 40 miles per hour; a slow train leaves Manchester for London at 11 a.m., travelling 20 miles an hour. When will they meet?

3. Solve the equations:—

$$(1)\quad \begin{cases} 7x-16y=42 \\ 5x+17y=30 \end{cases}$$

$$(2)\quad \frac{1}{1-x^2}-\frac{7}{8}=\frac{1}{1-x}-\frac{1}{1+x}.$$

MENSURATION.

1. Find the length of a circular arc whose radius is 20 ft. 9 in., and which contains an angle of 15°9′.

2. The sides of a triangle are 13 ft., 15 ft., 18 ft. Find the two parts into which the greatest side is divided by the perpendicular from the opposite angle.

Notes and News.

ONTARIO.

The High School Boards of Chatham and Lindsay are applying to the Education Department to be recognised as High Schools.

Owen Sound High School has an average attendance of 205.

The second lecture in the Ontario Ladies' College was delivered on Friday evening, March 25th, by Prof. Macoun, of Albert University; subject, "The North-West."

Brigden S. S., Lambton, is in need of a new school building.

The St. Thomas Collegiate Institute has an average attendance of 206 for February.

CHANGE OF BASE.—Mr. Andrew Hay, formerly principal of the Stratford public school, but latterly of Kingston, has been appointed mathematical master of the High School at Ingersoll. As the change is presumably for the better, we congratulate Mr. Hay on having made it—*Stratford Beacon.*

The Bowmanville *Statesman* of March 11th contains the following: "The Minister of Education has promised to make Lindsay High School a Collegiate Institute."

Dr. Nelles lectured at the Ontario Ladies' College at Whitby on March 11th; subject, "Mistakes in Teaching."

At a meeting of the St. Thomas Board of Education on Monday evening, it was decided to proceed immediately with the erection of two Ward school-houses, and the Building Committee was instructed to purchase the necessary ground for the purpose. The Third Ward building will be located upon the south side of Spring street, while the Fifth Ward structure will adorn the east side of Ross street, between Myrtle and Forest avenue.—*London Free Press.*

Mr. Whitney, H. M. of Iroquois High School, in a lecture on Walter Scott, before the Dundas Teachers' Association lately, expressed the opinion that the English "Literature" of the High School programme was the most useful as well as the most entertaining subject therein.

We learn from the *Queen's College Journal* that undergraduates, as well as graduates, will in future be allowed to vote at the election of a Chancellor of that Institution.

The *Guelph Mercury*, March 3rd, contains a leader criticising the New School Bill. Exception is taken to the additions made to the compulsory part of the School Bill, while that already in the statute book is practically a dead letter, and to the withdrawal from the teacher of all choice in the matter of text-books.

We are glad to notice from the remarks made by Mr. Crooks in the House on Thursday, that all books in the Depository at Toronto that would be useful to the library of the Agricultural College would be sorted out and sent there.—*Guelph Mercury.*

The *Journal de l'Instruction Publique*, of Montreal, contains a wellchosen collection of news and editorial comment with regard to educational matters among our Catholic friends of the lower provinces. Of especial interest is an account in the February number of the Congress of Catholic Teachers at Montreal.

The proprietors of this JOURNAL have received with pleasure a letter from W. Mackintosh, Public School Inspector, of Madoc, which concludes thus: "The March JOURNAL is a capital number. The CANADA SCHOOL JOURNAL is making constant advancement."

NOVA SCOTIA.

The following is the text of a bill, relating to higher education, introduced into the Legislature by the Hon. Provincial Secretary on the 16th inst:

A BILL ENTITLED "AN ACT IN RELATION TO COLLEGIATE INSTITUTIONS."

Be it enacted, &c.

1. Chapters 27 and 28 of the Acts of this Legislature passed in the year 1876 are hereby repealed, but this repeal shall not affect the validity or continuance of any degrees which have been conferred by the Halifax University under the provisions of said cap. 28.

2. The undermentioned sums shall hereafter be annually paid in aid of the Colleges hereinafter enumerated in lieu of all other grants and allowances, that is to say, to Dalhousie College, $1,400; to Saint Mary's College, Halifax, $1,400; to King's College, Windsor, $1,400; to Acadia College, Wolfville, $1,400; to Mount Allison Wesleyan College, Sackville, $1,400; Saint Francis Xavier College, Antigonish, $1,400.

3. The Superintendent of Education shall at least once in every quarter visit each of the said Colleges, and examine into the mode in which higher education is therein imparted, and make such enquiries as will enable him fully to report, and he shall quarterly report to the Council of Public Instruction upon the efficiency of each of the said Colleges, giving details of the equipment and progress of each, and giving such other information and details as may be required of him by any regulations of the Council of Public Instruction made from time to time.

4. The Council of Public Instruction may order to be withheld the grant to any of the Colleges hereinbefore mentioned in which the right of visitation as provided in the last preceding section may be denied, or in which the information referred to in said section is denied or erroneously given, and may withhold or suspend the grant from any College which they may pronounce inefficient, and the grant shall thereupon be withheld until the further order of the Council of Public Instruction.

Our next month's notes will contain a reference to the discussion and fate of this bill. It is thought that Section 3 will be modified in Committee as to the number of inspectoral visitations of the Superintendent of Education. The introduction of the bill in advance of parliamentary discussion has induced a lively newspaper controversy. The principle on which the grants are apportioned, and the repeal of the Halifax University Act are vigorously challenged by the *Morning Chronicle* and warmly defended by the *Morning Herald.*

The report of the Superintendent of Education was presented a few days after the opening of the Legislature. The number of pupils, at school during the year ended 31st October, 1880, was 93,700—a diminution of 5,394 in comparison with the previous year's attendance. In reference to this decrease the Superintendent observes:

"A careful examination of the returns proves the fact, to which I have alluded in another connection, that the decrease in attendance is chiefly due to *the closing* of a certain number of schools, presumably from special and temporary causes. It will be remembered that the winter season of 1879-80 was felt in many parts of the Province to be one of peculiar hardship and depression. Now, notwithstanding the general good sense of the people, and the operative character of the legal provisions for sustaining schools, we should not be surprised to find that in the casting about for measures of economic relief, education has been sometimes selected as a fitting subject of retrenchment.

"In some counties, notably in Cumberland and Hants, where the reduction in the number of schools has been relatively large, the terrible ravages of diphtheria discouraged many Trustees from attempting to maintain what, under the circumstances, could have been little more than the shadows of schools. I may also observe that the determined efforts of the Council of Public Instruction to improve the character of the schools, to do justice to those who hold its own license to teach, and to elevate the profession of teaching generally, by limiting to cases of absolute educational necessity the issue of local permissive licenses, has co-operated to a slight extent with the foregoing causes. It will be inferred that I regard the figures under consideration as indicating but a temporary and special arrest of growth,

"In submitting for candid consideration the facts embodied in this report, I desire to record my conviction that no light peril now threatens our system of Public Instruction from the prevalence of false notions of economy. I would refer my intelligent and patriotic fellow-countrymen, when they complain of the burdens of public education, to the table (III.) which supplies details respecting the salaries of teachers. These figures are obtained at first hand, are in harmony with other financial returns, and are in the main entirely reliable. They disclose a state of things which I make bold to say cannot continue long without serious detriment to the best interests of the province. My hope that the previous year had seen the pendulum at its lowest point has not been fulfilled. Throughout almost the entire range of the service there has been a further, and in most cases, quite a marked, falling off in the average salaries paid to the men and women who are training the youth of Nova Scotia for the duties and responsibilities of the future. I am happy to believe that many teachers are not laboring for bread alone, and, inspired by a high sense of duty, are prepared to render service without regard to rate of remuneration. But surely I need not point out the folly of trying to discount the evil results sure to accrue from present tendencies by such a consideration. Value for value is the inexorable principle which regulates exchanges of all kinds. If the people, in their respective localities throughout the Province, expect to have honest, valuable work done in their schools, they must be prepared to pay for it; they must be prepared to respond to the action of our legislators, through whose patriotic preference of education to more material interests that part of the teachers' salaries depending on the Provincial Treasury has suffered no abatement."

The proportion of the population attending school during the year was 1 in 41. The highest general average made by counties was made by Annapolis and Digby.

The total Government expenditure for the year was $196,217.80, a reduction from the previous year of $9,356.82.

During the year there received licenses, one candidate for academic class (grade A), 47 for first class (grade B), 125 for second class (grade C), and 217 for third class (grade D).

MANITOBA.

The regular meeting of the Council of the University of Manitoba was held on the 3rd of March.

The appointment of Registrar, which should have occupied the attention of the meeting, did not take place. The Council decided that a special meeting should be called for the purpose, and appointed the Rev. W. C. Pinkham, B.D., Superintendent of Education, to act in the meantime.

It was moved by the Venerable Archdeacon Cowley, seconded by the Rev. George Dugart and unanimously resolved, that this Council cannot allow the resignation of Mr. E. W. Jarvis to be accepted without expressing to him their hearty thanks for the very able and efficient manner in which he has discharged the duties of the office, and also their regret that he cannot longer give his excellent services in that behalf.

The statute relating to the Registrar provides that he shall be conversant with both the English and French languages.

The Rev. W. C. Pinkham, seconded by Hon. S. C. Biggs, in Professor Hart's absence, moved the resolution, of which he had given notice at the last meeting, viz.: "To appoint a special committee to consider the question of the higher education of women, with a view to bringing it within the scope and aim of our University work," and named the following: committee His Grace the Archbishop of St. Boniface, convener; Rev. Canon Grisdale, B.D., Rector of St. John's College Ladies' School; Rev. J. Robertson, Rev. Professor Forget-Despalis, Rev. S. P. Matheson, B.D.; Rev. Professor Hart, M.A., B.D., and the mover, and the resolution was carried.

There is a greater activity than ever displayed in the organization of school districts and the establishment of public schools. The St. James' School District has just decided to erect a very fine brick veneer school-house, and steps are being taken to enlarge the city schools to treble their present seating capacity. New schools are to be erected immediately at Sturgeon Creek, Pilot Mound, Ostrander, Louise, Perry, Calf Mountain, Prairie, Ferndale, and in several other districts.

At a recent meeting of the Board of Education it was decided that, "with a view to the encouragement of Teachers' Associations throughout the Province, the Protestant section of the Board of Education hereby authorizes the employment of the second Friday in March and the second Friday in October for this purpose, but these two days shall not be taken from the authorized number of teaching days (at present 200) in the school year."

During the past week a committee has been canvassing the city for subscriptions in aid of the site and new buildings for Manitoba College. Upwards of $6,000 have been subscribed already.

Readings and Recitations.

GENERAL LIBRARY MICHIGAN

THE TEACHER.

Brother, does thy patience waver?
  Is thy heart oppressd with care?
Falter not! thou art a graver,
  Graving on a tablet fair!
Weary not! thou art a writer,
  Writing on a deathless scroll!
Painter, too! in colors brighter,
  Sketching truth, as seasons roll.

Murmur not! thy great vocation
  Calls for love, and zeal, and prayer;
Worthy knowledge, to a nation,
  Pillar is, both firm and fair.
Firmly seek to do thy duty,
  Open daily wisdom's plan;
Strive to train in moral beauty
  Minds, the noblest gift to man!

Grave upon each youthful spirit,
  Only truth can make it free!
Teach that man can not inherit
  Greater good than liberty!
Write in bold and living letters,
  Knowledge is a priceless gem!
Plainly show the galling fetters
  Ignorance will bind on them.

Plant the seeds of every virtue
  Both in heart and mental soil!
Plant with care, with patience nurture;
  Conscience will reward thy toil.
Watch with joy, thou mental florist,
  Buds unfolding day by day;
For the God, whom thou adorest,
  Blesses deeds of faith alway!

Think not thou to see thy teaching
  Bring its fruit before life's close;
Deed like thine, far, far out-reaching
  Life or time, in action goes!
Labor, then, to give tuition,
  True and noble, high and vast;
And thou shalt have full fruition,
  When the days of time are past.

—*G. W. Miner.*

QUARRELLING.

Two little kittens, one stormy night,
Began to quarrel, and then to fight;
One had a mouse, the other had none,
That was the way the fight was begun.

"*I'll* have that mouse," said the bigger cat.
"*You'll* have that mouse! We'll see about that."
"I *will* have that mouse," said the elder son.
"You *won't* have that mouse!" said the little one.

I told you before 'twas a stormy night,
When these two little kittens began to fight;
The old woman seized her sweeping broom,
And swept the two kittens right out of the room.

The ground was covered with frost and snow,
And the two little kittens had nowhere to go;
So they laid them down on the mat at the door,
While the angry old woman was sweeping the floor.

And then they crept in as quiet as mice,
All wet with snow and as cold as ice;
For they found it was better, that stormy night,
To lie down and sleep than to quarrel and fight.

—*From the Independent Second Reader.*

The city and guilds of London "Institute of Technical Education" have issued a poster to the science centres of England, with programme of an examination in technological subjects.

Teachers' Associations.

The publishers of the JOURNAL will be obliged to Inspectors and Secretaries of Teachers' Associations if they will send for publication programmes of meetings to be held, and *brief* accounts of meetings held.

MUSKOKA.—P. A. Switzer, Esq., finished his official tour of inspection in this district on Thursday and Friday last, by presiding at the meeting of the Teachers' Institute. This has proved a very interesting and instructive session, from the number of teachers present, the subjects discussed and the proportions of members who took part in the discussions and deliberations. Mr. McFarlane took up the subjects of Grammar and Music, which he treated in a practical and common-sense way. Mr. Crasweller dealt with the subject of "Elementary Arithmetic"; Miss Coulter, "Reading"; Mr. Fleming, "Senior Arithmetic"; and Mr. Dickey, "Geography." This took up the whole of Thursday. Friday was occupied by Messrs. Switzer, Symington, Nicholson, Fleming and Matthewson, who took up the subjects of "Geography," "Numeral Frame," "Analysis," "Tablets," "Object Lessons" and "Composition." All these were treated in a thoroughly business-like way, keeping always in view the requirements of the district and the end and aim of teaching. Mr. McFarlane and Miss Kirkman were appointed auditors of the Treasurer's accounts. A membership fee of 25 cents a year was imposed, and it was agreed that a copy of the CANADA SCHOOL JOURNAL be supplied to every member from the funds of the Institute. The next meeting of the Institute will be held at the village of Parry Sound, on Thursday and Friday, 18th and 19th August.

EAST MIDDLESEX.—The first regular meeting of the Association for 1881 was held in the County Council Chamber, Mr. John Dearness, I.P.S., in the chair. Mr. Dearness read an interesting paper on the work done by the Association, in which he traced its progress during the last ten years Mr. Girardot, Inspector of Essex Co., being present, delivered an address. Mr. Mill took up the subject of "Notation and Numeration." Mr. Ranton, Chairman of the Committee appointed to report on Superannuation, presented the report. Rev. Mr. Hunter then gave an address, in the course of which he said that there was no class of people whose work was so important to the nation, and so poorly paid as teachers.

MITCHELL.—The teachers of the South Riding of Perth met at Mitchell on Feb. 25th. Messrs. D. G. McNeil and A. S. MacGregor were elected representatives to the Provincial Association. Mr. Cornell, of Mitchell, addressed the meeting on his "Method of Teaching Algebra," and Mr. Moran, Inspector, spoke on "Hasty and Superficial Methods of Teaching." Mr. Buchan, High School Inspector, gave a valuable address on "Grammar and Composition."

WEST LAMBTON.—A meeting of the West Lambton Teachers' Association was held at the Model School, Sarnia, on Feb. 24th and 25th, J. Brebner. Esq., in the chair. An address on "Parsing" was read by Mr. J. C. Beveridge; by Mr. Jas. Turg on the "Methods of Teaching Interest and Discount. Miss Janet Patterson exemplified her system of teaching "Reading" to a third class. With regard to the important question of Superannuation, resolutions were passed advocating compulsory payment, and fees from candidates for certificates.

REVIEWS.

THE SPIRIT OF EDUCATION. *C. W. Bardeen, Syracuse.* This is translated from the French of M. l'Abbe Beesau. This work discusses in a thoughtful and practical manner the great question of how to educate the whole being, not merely the intellect. Infancy, early years, youth, the intellect, the heart, the will, manners, conversation, the art of speaking well, exterior graces, character, and work form the titles of the chapters into which it is divided, and through it all runs a rich vein of common sense and piety. Mothers as well as teachers would be greatly benefited by the work.

MOFFATT'S READINGS IN GEOGRAPHY. *London, Moffatt & Paige.* The aim of the author has been to present to the minds of children the leading facts and principles of Geography in plain and simple language. so as to form a suitable Reader to place in the hands of young children The practice of giving instruction as a means of using Readers in some of the other school studies is becoming popular in England. The book would help teachers of junior classes to prepare their lessons.

SOUTH KENSINGTON DRAWING CARDS. *By Moffatt & Paige. Leaves and Vases.* This is one of the best series of cards we have seen for freehand drawing; the vases are especially excellent.

A MANUAL OF SUGGESTIONS FOR TEACHING FRACTIONS. *By W. W. Davis. Syracuse, N. Y., C. W. Bardeen, Publisher. Price 25 cents.*

This manual was originally written to accompany a fractional apparatus designed by the author, consisting of large wooden balls divided into halves, thirds, fourths, sixths, eighths, ninths and twelfths—the special idea being that while a child looks upon each of the halves of a broken stick as itself a stick, and hence a unit, he readily sees that a half or a third of a ball bears a fractional relation to the entire ball.

But the book has a value entirely apart from the apparatus it was designed to accompany. The whole subject of fractions is divided into sixty lessons, so as to occupy just a term, and the successive points are developed with a skill that can come only from careful study and long experience. It is a book which young teachers may rely upon, and older ones may look to for suggestions which cannot fail to be of service.

MAGAZINES.

SCRIBNER'S MONTHLY for April. We strongly advise the purchase of the February, March and April numbers of this beautiful magazine, which the publishers offer for $1.00. Mrs. Burnett's story, "A Fair Barbarian," is alone worth the money—and in addition there is a collection of literature and art which must prove a source of delight and culture in any household. A feature of the April number is the article containing the prize engravings made by the successful competitors for the *Scribner* prizes for non-professional engravers. "Father Hyacinthe," with a splendid portrait; "Elementary Instruction in the Mechanic Arts"; "The Greatest Active Volcano," and "Marine Forms as Applicable to Decoration," are the most interesting articles for teachers. The Editorial Department is of course good.

THE POPULAR SCIENCE MONTHLY for April. There are fifteen articles in the April *Popular Science Monthly*, all of them readable and instructive, and several of them of great practical value. Herbert Spencer opens the number with his sixth paper on "The Developments of Political Institutions," in which he discusses the subject of "Political Heads," or the causes and conditions that determine the concentration of authority, and power of chiefs, kings, etc. "The Black Races of Oceanica," by Dr. R. Verneau, is an illustrated article devoted to a study of the cranial and facial characteristics of the principal negro races of the Pacific Islands. Dr. Felix L. Oswald continues his common-sense treatment of the subject of "Physical Education" in an article on "Out-door Life" He claims, and with reason, that as a natural preventive of disease, nothing equals active exercise in the open air; and for respiratory ailments especially, it is superior to anything else as a curative agent. For the healthful development of children it is indispensable, and with its associated opportunities may be profitably substituted much of the drill of the schoolroom. The notes are unusually full.

The contents of APPLETON'S JOURNAL for April are as follows: "A Question: a Greek Idyl," by Professor George Ebers, author of "Urada;" "An Egyptian Princess," etc., in two parts (part first); "Mysteries and Miracle-plays," by Lucy H. Hooper; Oliphant's "Land of Gilead"; "On Some of Shakespeare's Female Characters" (II). Portia, by Helen Faucit Martin; "Greek Dinners," by F. A. Paley; "Why does the Crab go Sideways?" by Robt. B. Roosevelt; "A Culture Ghost: or Winthrop's Adventure," by Vernon Lee; "The Caliph Haroun Alraschid"; "The Earl of Beaconsfield as a Novelist"; "Ruskiniana" (Ruskin's Arrows of the Chace"); "Concerning the Cheerfulness of the Old," by A. K. H. B. (the Country Parson). EDITOR'S TABLE: Carlyle as a Thinker—The English Estimate of Carlyle—Tact not a Special Feminine Quality.—NOTES FOR READERS.

A Technical Library has been opened by the Government of Brussels, with foreign periodicals, and every important modern work of science, legislation and the fine arts.

The *Schoolmaster* (England, Feb. 1881), advocates the abolition of the system of Senior Wrangler lists at Cambridge, on the ground that the exclusive application to mathematics of young men till the age of twenty-two causes neglect of other branches of education.

FOR INTERMEDIATE EXAMINATION.

THIRD EDITION.

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Publishers' Department.

GEORGE MERCER ADAM.

We have carefully refrained from replying in the columns of the JOURNAL to any criticisms made concerning our publications by interested persons, however unfair or unjust they may have been, although one periodical sometimes devoted sixteen pages in a month to attacks on our books. We have abstained from reviewing our own books in these columns, so strong has been our desire to avoid even the appearance of wishing to use the JOURNAL as a lever to give a fictitious value to the publications of our house. We feel, however, that our readers will fully justify us in defending ourselves from an attack made on our business integrity, in a journal edited by Mr. G. Mercer Adam. Mr. Adam is evidently terrified by the issue of our new teachers' magazine, *Gage's School Examiner and Monthly Review*, and condemns, in the coarsest of his profuse and venomous vernacular, our action in issuing a circular stating the commission which we would allow to agents, and requesting aid in securing its circulation by "recommending a smart live man among the teachers who would undertake to press the introduction of the paper.'' Notwithstanding the fact that all classes of papers, religious, educational, and political, offer discounts or give prizes in some way or other, he charged us with a dishonorable attempt to "tamper with the profession." The profession will undoubtedly see the gross insult so gratuitously hurled at them by this writer. It is not anxiety for the honor of the profession, to which he never belonged and for which it is sheer impertinence for him to assume to speak; which troubles Mr. Adam. He knows from a bitter experience that the teachers of Canada cannot be "tampered" with. He has found that they have sufficient judgment to treat his paper with deserved indifference, even though he offers by letters to conventions to give it at "club rates if only one subscriber is obtained." This is what annoys him. We can well understand how he might be worried by jealousy at the triumphant success of our school journals, but we are utterly at a loss to know how HE *of all men* could dare to criticize our method of conducting our business. He surely forgets the history of the past six or seven years, so far as his own business transactions are concerned. He is annoyed because we offer a journal for half its value. Righteous man! If he had paid us fifty cents on the dollar of his indebtedness to us, we might have been able to offer still better terms to the teachers. We regret to say, however, that he so managed his own business as to pay us and his other creditors in Canada, the United States, and Great Britain, a sum far below fifty cents on the dollar. That we consented to accept this trifling amount, ought surely to have saved us from the sneers of such a man. We cannot believe that it was on account of our leniency and generosity that he tried to injure us.

Whatever may have been the motive which has led Mr. Adam to persevere in his course of attack during the past two years, we do not wish to discover it. We are sorry to find that having borne it all patiently, and without on any occasion directly or indirectly giving him any reason for offence, our course does not seem to have had the proper effect on him. He has evidently not the manliness to give even negatively that gratitude which a gentleman always offers in return for favors bestowed; and he has been led by our inattention to his attacks to advance from gross falsehoods concerning our books, to an attack on our business integrity. We simply tell him that there is a point beyond which even a literary vagrant must not be allowed to go; and intimate to him that unless he desists from his course of slander, we will feel it our duty to enlighten the community for which he impudently assumes to dictate a moral code, as to his conduct in relation to others, ingratitude to whom must be known by the stronger word inhumanity.

ENTRANCE AND INTERMEDIATE EXAMINATIONS.

A new idea has been started by the publishers of GAGE'S *School Examiner and Monthly Review*, which has proved to be a successful and happy hit, viz., to supply teachers, for use in their classes, sets of examination papers, publishing them in advance of the issue of the above-named magazine. Already a number of teachers have availed themselves of the use of these papers. One master writes us:

CALEDONIA, March 26th, 1881.

DEAR SIR,—In answer to your letter, I may say that I got the Papers on Arithmetic on Thursday. They gave entire satisfaction. My class went at them with as much eagerness as if they were the genuine Intermediate. I intend to secure them each month. The Magazine did not come until Saturday, which made it all right.

Yours, &c.,
J. MCNEVIN,
Math. Master Caledonia High School.

Another writes:

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Recommended by Chief Superintendent of Education, New Brunswick.
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Recommended by Chief Superintendent of Education, British Columbia.
Recommended by Chief Superintendent of Education, Manitoba.

The Publishers frequently receive letters from their friends complaining of the non-receipt of the JOURNAL. In explanation they would state, as subscriptions are necessarily payable in advance, the mailing clerks have instructions to discontinue the paper when a subscription expires. The clerks are, of course, unable to make any distinction in a list containing names from all parts of the United States and Canada.

MR. INSPECTOR MARLING AND MATHEMATICS.

We publish with pleasure Mr. Inspector Marling's letter in reply to our critique. We had certainly no intention of misrepresenting his views. Others have drawn the same inference from his report that we did. During the past two months it has been frequently referred to as an attack on the Mathematical teaching in our High Schools. We are glad, then, that Mr. Marling has put himself right in this respect with the public.

Notwithstanding the explanations contained in his letter, we still find difficulties with the paragraph in his report to which we referred. He says "it is not uncommon to find fully five-eighths of the school time, to say nothing of home study, taken up with these subjects." The five-eighths give this the appearance of precision and accuracy. And yet we have before us three time-tables of what may be considered representative High Schools, and in them we find no such time allotted to Mathematics. We would like to see some more time-tables. Besides, we usually find *one* mathematical to *one* classical and *one* English master in our High Schools. Are we to suppose that the mathematical master does more work than the other two ?

Mr. Marling's second complaint is that the said five-eighths are taken up "especially with the solution of problems, useful enough, no doubt, as exercises of the pupil's ingenuity, but of small educational value otherwise." Then we must infer that problems which *do not* exercise the pupil's ingenuity are of large educational value. Not being an authority ourselves on Mathematical or Mental Science, we prefer John Stuart Mill's opinion to our own, and we are sure Mr. Marling will heartily agree with us in this, and readily pardon us for again quoting that philosopher. Mr. Mill says that, "in all mathematical tuition deserving the name, the *inventive* powers which in their highest degree constitute mathematical genius, are called forth and fostered in teaching mathematics to the merest tyro," and he assigns a real value only to that class of problems which, "according to the degree of their difficulty, requires nearly every possible grade of *ingenuity*."

And now with regard to Mr. Marling's indignant parent and her "sums." We, too, have heard a great deal of the same kind of talk, not only from indignant mothers, but from far more indignant fathers. We have tried to get at the "true inwardness" of this grievance, and, like Archimides of old, we have found it. In the good old days, when Mr. Marling and we were school boys, the home lessons consisted of the intellectual "*hic, hæc, hoc.*" Then youngsters were not inquisitive, and consequently parents had to answer no puzzling questions. But in these degenerate days teachers give problems which require more or less thinking on the part of the children, who in order to save themselves from that disagreeable operation apply to the parents, who in their estimation know everything. The mother is too busy putting baby to sleep, and refers them to the father, who is only reading the newspaper; he looks at the problem for some time, tries to recollect the rule, infers that it does not come under any, and is therefore nonsense, and the teacher must be a fool, and that our whole system of education is simply "sublime and transcendental bosh." All such have our hearty sympathy. We have been afflicted in the same way, and as Bob gets older matters will probably get worse. We hope something will be done.

With respect to the problems in vogue to which Mr. Marling refers, they are, to a great extent, the products of the best intellects connected with the Universities of Europe and America, and are presented to our pupils in the most attractive form; and we have the assurance of those best qualified to judge in such matters, that the results are in the highest degree satisfactory. We have no doubt, however, that injudicious teachers err grievously in giving long and intricate "sums" to be worked out at home, and Mr. Marling has our sincere thanks for calling attention to it. But the injudicious teacher will soon only be met with in the past tense. The mathematical teaching in our Collegiate Institutes and High Schools is now so excellent that ere long we will have a class of teachers who will not be guilty of any such wickedness as that to which Mr. Marling refers.

From Mr. Marling's well-known love for classical literature, and from his *supposed* indifference to mathematical studies, he will naturally be made the recipient of all the grievances of the mathematically halt, lame, and blind. Indeed, if any one chooses to open a cave of Adullam, it will not long want occupants, but we are sure Mr. Marling has no desire to be the captain of such a band. We will follow Mr. Marling's example in closing with a Latin quotation from his old friend Sallust, and he will be adding another to his many services in the cause of education if he will urge on his aggrieved friends its careful study: "*Ubi de magna virtute et gloria bonorum memores, quæ sibi quisque facilia factu putat, æquo animo accipit; supra ea, veluti ficta, pro falsis ducit.*"

ENGLISH IN SCHOOLS.*

The republication of one volume of Mr. Hudson's essays on "English Literature in Schools," affords teachers the opportunity of obtaining, at a trifling cost, a book of great merit. Its value consists in this, that in it a great Shakespearian scholar, who is both a forcible writer and one of the best of living teachers, has laid down the principles of his method of instruction, and his views as to the place of his special subject in the school programme. There is no teacher who will not be benefited by reading it.

All agree that a certain amount of reading, writing, and arithmetic should be the basis of every course of mental training. But there are great diversities of opinion as to what should be given in addition. Practically, both here and in the United States, teachers have gone in for mental gymnastics. That is to say, their attention has been directed almost exclusively to the sharpening of the logical faculty to the neglect of the others, and without any attempt to regulate the mental diet. The most extensive course of solving mathematical problems, of parsing and analysing, of memorising historical, geographical and scientific facts, and of acquiring the words, idioms and grammars of other languages will do little towards furnishing the mind with ideas, towards developing nobility of soul, towards building up a taste for that which is substantial and of lasting interest, instead of for that which it is the vulgar and fleeting fashion of the time to admire. The effect of this one-sided cultivatiom of the intellect is to be seen in the intolerable flippancy and vulgarity of the great majority of those who have been educated in the public and high schools. And how could it be otherwise? No pains are taken to set up any lofty standard of thinking or living before the pupils, and with faculties sharpened by the drill of the school, they are turned out to feed on what may turn up, be it the ambrosia of the gods or the vilest garbage. "I suspect," says Mr. Hudson, "it has been taken for granted much too generally that if people know how to read, they will be apt enough to make good use of that knowledge without further concern. A very great mistake! This faculty is quite as liable to abuse as any other; probably there is none other more sadly abused at this very time; none that needs to be more carefully fenced about with the safeguards of judgment and taste. Through this faculty crowds of our young people are let into the society of such things as can only degrade and corrupt, and, to a great extent, are positively drawn away from the fellowship of such as would elevate and correct. Most probably, not less than seven-eighths of the books now read are simply a discipline of debasement; ministering fierce stimulants and provocatives to the lower propensities, and habituating the thoughts to the mud and slime of literary cesspools and slop-cooks."

For correcting this evil nothing can be better than to endeavor to implant in the young a taste for good reading. The next question is, to what place in the school programme the relative importance of English literature entitles it. On this point Mr. Hudson says: "My conclusions from the whole is, that, next to the elementary branches, and some parts of science, such as geography, astronomy, and what is called natural philosophy, standard authors in English literature ought to have a place in our school education. Nor am I sure but that, instead of thus postponing the latter to science, it were still better to put them on an equal footing with it. For they draw quite as much into the practical currents of our American life as any studies properly scientific do; and, which is of yet higher regard, they have it in them to be much more effective in shaping the character. For they are the right school of harmonious culture as distinguished from mere formal knowledge; that is, they are a discipline of humanity; and to have the soul rightly alive to the difference between the noble and the base is better than understanding the laws of chemical affinity."

The principal object with which pupils should read an author is to commune with him and drink in his spirit. They are to be brought into contact with a great soul and with noble thoughts. They should read, therefore, enough of that author to become well acquainted with him Books made up of selections from a great many authors are not likely to be the most useful in inspiring a taste for good reading. Nor are works on rhetoric, histories of literature and voluminous notes likely to be other than hindrances. The teacher, when in charge of the literature class, must cease to be an instructor in mental gymnastics. If he bring his pupils to take delight in what they are reading, and to feel the beauty or the grandeur of thet houghts, he is successful. But he cannot accomplish this by any process of analysis; he must himself feel, and infect his class with his feelings. All exercises in grammar, philology, figures of speech or metre—all explanation or catechizings as to proper names, allusions, and the literary or other history of the work, the author, or his epoch—all critical discussion of various readings, should be made strictly subsidiary to this one aim.

It is clear that the subject cannot be dealt with by the method of recitation. To tell a class to prepare a certain portion of the author, with the notes thereon, is to defeat the very object with which he should be read. The time and mental force of the class are devoted to the words and thoughts of obscure commentators instead of to those of the author. We are of opinion that when a class is reading a work for the first time, no questions should be asked which the notes will assist the pupils in answering. Let the time be devoted to gaining the meaning and to reading. A good reader, if he has literary taste, can do more to diffuse a love of sound, healthy literature among his pupils than any mere gerund or note-grinder.

* English in Schools: a series of essays by Henry N. Hudson, Professor of Shakespeare in Boston University; author of "Life, Art, and Characters of Shakespeare," Editor of the Harvard Edition of Shakespeare's Complete Works, and of the Annotated Series of English Classics for School Use. Boston: published by Ginn & Heath, 1881.

HIGHER EDUCATION IN NOVA SCOTIA.

The Nova Scotia column of our March issue referred to pending questions of interest in relation to collegiate education in that Province.

This month we are informed that some of these questions have been temporarily, if not decisively and permanently, set-

tled. It would appear that the grants heretofore accorded to denominational Colleges have been permitted to lapse, and that even the University of Halifax, established five years ago as an examining institution, has had its limited legislative subsidy withdrawn. At our distance, it is not easy to conjecture the sequel.

The Colleges will naturally throw themselves on the benevolent impulses of their respective denominations. The position of the University is somewhat anomalous ; for as we understand recent legislation, the University's powers of examining and conferring degrees are in no wise impaired thereby. But even a non-teaching University requires money, and in the absence of that requisite, how operations are to be carried on is not clear.

The whole subject is one which we do not profess to understand in its historical details.

We learn from the report of the Superintendent of Education, Dr. Allison, that the Colleges until recently receiving public aid were founded as follows :

Kings (Episcopal) in 1802 ; Dalhousie (quasi-Provincial) in 1820 ; Acadia (Baptist) in 1838 ; St. Francois Xavier (Roman Catholic) in 1855 ; Mt. Allison (Methodist) in 1862, and St. Mary's (Roman Catholic) in 1840.

Some of the institutions have graduated but a limited number of students, and of several the reported output is scarcely consistent with the idea of thorough collegiate work. Undoubtedly, however, they have all contributed to the intellectual enfranchisement and progress of the Province.

The annual grants paid these institutions for the past five years under the Act just lapsed were—to Dalhousie, $3,000 ; Kings, Acadia and Mt. Allison, $2,400 each, and to St. Mary's and St. Francois Xavier, $1,500 each. For the ten years previous to 1876 smaller grants were paid, in no case exceeding $1,400 ; the increase voted in that year having been coupled with the statement that at the expiration of five years (in 1881) the grants should "cease and determine."

One of the historians of Nova Scotia, referring to some transactions of fifty years ago in which the interests of Education were involved, remarks that "higher education has been in a muddle in Nova Scotia ever since." It is not for us to say how far this observation was warranted by facts, or, if wholly true, what effect late events may have in relieving the "muddle." The smoke has not yet cleared from the field of battle. But we note some indication of an apparently sincere movement in favor of consolidating several, if not all, of the Colleges, on a non-denominational if not provincial basis. Not so much on the general principle that union is strength as on the obvious inability of so small a Province to maintain five or six first-class Colleges, this movement strikes us as wise, though of course we are not in a position to appreciate all the difficulties which may lie in the way of its accomplishment.

The failure of the University of Halifax to fully commend itself to the legislative wisdom of the Province does not seem attributable to any shortcomings on the part of the accomplished gentlemen constituting its Senate. The successive calendars bear testimony to faithful and skilful labor. As to the *principle* of such Universities, *lis est adhuc sub judice*. But probably the issues reached have been determined, in part at least, by influences too local and occult to be definitely pronounced upon by us.

SCIENCE IN HIGH SCHOOLS.

It is about time something was done to stimulate the study of science in our High Schools Every other department of the curriculum has been stimulated and fostered. New and better text-books have appeared in mathematics, and carefully edited editions of the English classics have been put into the hands of teachers and pupils. In modern languages, the attention of the teaching profession has been directed to improved manuals; while in classics, Canadian editions of the authors to be read have been published with notes and vocabularies. But what has been done for science ? In how many of our schools are the merest elements of physiology, geology and botany taught ? The vast majority of our pupils, on leaving our high schools, enter on the duties of life, and we are sending them forth in utter ignorance of the construction of their own bodies, and without a knowledge of the nature of the earth, and the plants and animals around them.

To stimulate the study of science in our schools would answer an urgent demand of the times, and such a demand is but the expression, more or less exaggerated, of a real need. But it would do more than this : it would round off our educational system—not that we are giving too much attention to the other subjects of the programme, but that we are giving too little attention, or none at all, to science. If we do not bestir ourselves in this matter, we shall find ourselves, educationally, behind the age—even behind countries which we are wont to look upon as conservative in education.

Could there not be a fifth optional department formed in the high school programme, either by a new division of the subjects, and the addition of physiology, geology, and botany, or by elevating these subjects with the addition of one or more kindred branches to the dignity of a department in themselves ? To put them on the programme and give them no value in examinations will be useless. To do this would be to recommend their study and do nothing to encourage it, and would have the same effect as to put obstacles in the way.

We invite expression of opinion on this subject, for those at the head of our educational affairs have always shown a commendable desire to be guided by the opinions of those best acquainted with the needs of our system.

ENGLISH FOR TEACHERS' EXAMINATIONS.

The following is an outline of the English required for the First Class Teachers' Examinations in 1881 and 1882 :

FIRST C.

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The subjects prescribed for the examination in 1881 are—

Julius Cæsar—*Shakespeare*.

The Lady of the Lake—with special reference to cantos 5, 6.—*Scott*.

The Spectator—Papers 106, 108, 112, 115, 117, 121, 122, 123, 125, 126, 131, 269, 329, 335, 517—*Addison*.

Johnson's Life of Addison.
Macaulay's Life of Johnson.

The subjects prescribed for the examination in 1882 are—
Richard II.—*Shakespeare.*
The Deserted Village—*Goldsmith.*
The Task, Bk. III.—*Cowper.*
The Spectator—Papers 106, 108, 112, 115, 117, 121, 122, 123, 125, 126, 131, 269, 329, 335, 517—*Addison.*
Johnson's Life of Addison.
Macaulay's Life of Johnson.

No particular editions of these texts are prescribed, but the following good ones are mentioned in order to aid candidates:
The edition of Julius Cæsar in the Clarendon Press series.
Morley's Spectator.
Matthew Arnold's Johnson's Chief Lives of the Poets. This contains both Johnson's Life of Addison and Macaulay's Life of Johnson.
The edition of Richard the Second in the Clarendon Press series, or Hudson's Richard the Second.
Griffith's or Storr's Cowper's Task.
Sankey's, Rolfe's, or Stevens' and Morris's Deserted Village.

FIRST A AND B.

The following are prescribed for 1881 and 1882:
CHAUCER.—The Prologue to the Canterbury Tales.
The Nonne Prestes Tale.
SHAKESPEARE.—Coriolanus for 1881.
The Merchant of Venice for 1882.
MILTON.—Areopagitica.
POPE.—The Essay on Man.
JOHNSON—The Lives of Milton and Pope.
MATTHEW ARNOLD.—The Preface to Johnson's Chief Lives of the Poets.

N.B.—Candidates who take other departments will be required to show, by passing an examination in Coriolanus for 1881, and the Merchant of Venice for 1882, that they have read the play carefully, and that they are in the habit of writing the English language correctly.

No particular editions of these texts are prescribed, but the following good ones are mentioned in order to assist candidates:
Morris's edition of Chaucer's Prologue to the Canterbury Tales and the Nonne Prestes Tale in the Clarendon Press series.
Arber's edition of the Areopagitica was mentioned for 1881. Hale's edition for 1882.
The edition of Coriolanus and the Merchant of Venice in the Clarendon Press series.
The edition of the Essay on Man in the Clarendon Press series.
Matthew Arnold's Johnson's Chief Lives of the Poets.

SUPERANNUATION.—The secretaries of the various Teachers' Associations have received from the Legislative Committee of the Ontario Teachers' Association a circular, informing them of the result of several interviews with the Minister of Education on the subject of Superannuation. The Minister has expressed his willingness to consider and submit for the sanction of the Legislature, at its next session, such amendments as would fairly represent the views of the great body of the teachers on this subject. The Legislative Committee has therefore submitted to each association thirteen points of consideration, requesting to know their decision before July.

This is the right way to obtain the views of those interested. The Minister of Education, on this as on similar occasions formerly, has shown the most courteous willingness to entertain the suggestions of those competent to offer them.

—Mr. Jeffers, who for some years occupied the position of Principal of the Peterborough Collegiate Institute, has resigned; and at a meeting of the Board of Education the following resolution was put and carried unanimously:

"That the Board of the United High and Public Schools of the town of Peterborough deeply regret that Mr. Jeffers has declined to accept the salary which the Board has appropriated for the Principal's salary, and has in consequence resigned the Principalship of the Collegiate Institute.

"This Board desires to put on its minutes an expression of their high estimation of the ability of Mr. Jeffers. Under his administration the standard of our schools has steadily advanced, until they have attained a first place amongst the Educational Institutions of the Province. Mr. Jeffers possesses high organizing and administrative ability, and is ever courteous and genial with his staff and with the pupils, so that he is highly beloved and esteemed by all.

"The refusal of Mr. Jeffers to accept a salary which was increased with a view of retaining him, was the sole reason for his leaving the service of the Board.

"The Board, while deeply regretting to lose Mr. Jeffers, desire to express their good will towards him, and hope that his life, a portion of which has been so happily and profitably spent with us, may continue ever bright and happy to the end."

—At the meeting of the Senate of the University of Toronto on March 14th, the following statute was passed on motion of Dr. Wilson, seconded by Mr. Crickmore:

"That in the Faculty of Arts, the examinations, together with the medals and prizes, the certificates of honor, scholarships and degrees are open to women on the same conditions as to men, excepting that it is not imperative on them to attend lectures in any affiliated College; and any woman gaining a scholarship shall sign an engagement that the money will be expended by her in the further prosecution of the studies prescribed as necessary for the degree in Arts."

We congratulate the University on this step in educational advance, which we have do doubt will gratify all who wish for women, as for men, free access to the sexless flowers of the tree of knowledge.

—The atrocious regicide of the Russian Nihilists is a result not only of the oppression of a corrupt bureaucracy, but of that ignorance among the masses of the people which has been a factor in all Socialist uprisings of the proletaire, from the days of the Jacquerie downwards. Well does Victor Hugo put it in one of his poems describing a scene during the reign of the *Commune.* A Communist is expostulated with for being about to burn the great public library. "What do I care for libraries? —*they never taught me to read* !"

—The cause of failure in the old system of education lay not in its hard and arbitrary methods, nor even in its abuse, so contrary to modern ideas, of corporal punishment, so much as in this that, it in no way sought to make the pupil interested in his own education. In the methods of good teachers it is a leading feature that *curiosity* is stimulated; and the freshness and pleasure of a process as attractive as any play prevents the school from being like that to which Shakespeare's schoolboy "crept unwillingly."

—Of the London School Board, the *Teacher* (London) says that there are nine women out of fifty members. The election

of women to school boards is a question which we would press on the attention of our readers. There are many points connected with the comfort of children, and with a proper consideration for the teacher's feelings and interests, which would be the better supervised if women were members of the board.

—There is a growing feeling in the teaching profession against the giving of prizes. The prize system concentrates the teacher's attention on a few pupils, it encourages emulation and other passions inconsistent with the cultivation of knowledge for its own sake. The old system of rewards seems likely to be as much criticised as the old system of punishment.

—We read with pleasure in the Stratford *Beacon* of the prompt action of the police of Stratford in arresting corner loafers. Were the same course taken in Toronto, it would be a boon to our school children and teachers, who in some localities have complained to us of the annoyance caused by these pests of our streets.

—The investigations of the *Globe* Commission in Maine, with regard to the working of the liquor law, prove that by it the evil is at least minimized, and driven, like paganism before its final extinction, into the holes and hiding dens where only the most hardened drunkards would go to seek it out.

—The *Smith's Falls News* contained an intelligent article on High School Inspection by Mr. J. M. Buchan. An increased interest in educational topics is being manifested in several of our ablest exchanges.

—The Charlottetown, P.E.I., *Patriot* complains of the high price of school text-books, and the difficulty of obtaining Geographies and other manuals. Some waking-up is clearly needed among the islanders on educational matters.

Contributions and Correspondence.

ADDRESS TO THE TEACHERS OF ONTARIO.

READ BY W H. PINNEY AT THE NORTH SIMCOE TEACHERS' CONVENTION, OCT. 22ND, 1880.

With throbbing hearts and words of cheer
Once more we hail each other here.
Our fleeting moments shall be spent
On mutual benefit intent.
Our office do I magnify
To say there is none else so high!
"Estes lux mundi" when addressed
To teachers, is a truth expressed,
For 'tis an all-important truth,
That we are lights and guides to youth,
And youthful banners, now unfurled,
Will soon be swaying all the world.
The sculptor that can make a stone
"Almost to breathe" has long been known
And patted as a child of worth
Almost too good to dwell on earth:
The painter who can imitate
Bright scenes of nature, or create,
And with his pencil thus impart
New treasures to the stores of art,
Deserves to have his glorious name
Inscribed upon the scroll of fame.
And poets too who sing the song
Of noble deeds that right the wrong,
Through future ages shall be blest
With gratitude from every breast.
Warriors who have dealt the blow
That laid the traitor foeman low,
Are lauded with a song of praise
That grateful hearts may justly raise;
But in such songs the sweetest tones
Have counterpoise of tears and groans.
Our toil is of a higher cast,
Our labor shall forever last.
The chisel may the statue find,
'Tis ours to dress the living mind!
The painter may a portrait take,
But, by our skill, we painters make!
While poets sing in soothing lays,
'Tis ours to fill the heart with praise:
With praise that may in numbers swell
To Him that doeth all things well.
'Tis ours with labor, faith and prayer,
With hope and patience to prepare
This youthful nation which shall be
The grandest of humanity.
'Tis ours her future men to call,
Sculptors, Poets, Painters, all
Statesmen, warriors, men of might,
Who take a part in Life's great fight.
'Tis ours to elevate the mind,
To clear the vision of mankind;
To show the honor due to toil,
That honest labor does not soil,
But tints the hand with richer glow
Than idleness can ever know
The little child that learns to-day
With loving heart the word "obey,"
May be a Patriarch in the land,
With loving hearts at his command;
And, when each household has confessed
Love's power, our country shall be blessed.
But what shall compensate our toil,
Our weary hours, our "midnight oil?"
Is it the sum reluctant paid
According to agreement made?
Alas! if such were all, our days
Were better spent in other ways!
But is it no reward to know
That our toil is the seed we sow;
That ev'ry impulse we inspire
Shall raise this growing nation higher;
That every mind released from night
Becomes a burning, shining light;
That all these blessings shall increase
Through all of time and never cease,
'Till earth is filled with heavenly peace?
Yes, friends, our wages have the power
To 'cumulate from hour to hour;
And all the ages yet to come
May not compute the total sum.

THE SUPERANNUATION FUND.

To James L. Hughes, Esq., Chairman of the Legislative Committee of the Ontario Teachers' Association.

DEAR SIR,—From Article 3 of your circular in the April number of this journal, I learn that an assessment of two per cent. will probably be made on the salaries of male teachers to support the Teachers' Retiring and Provident Fund. Doubtless this plan is suggested by a desire to deal fairly by all, yet those for whom the Fund is specially intended derive the least benefit.

I think investigation would show the average salary of the rural teacher of thirty years' service to be about four hundred dollars.

This sum represents an assessment of eight dollars a year, or a total of two hundred and forty dollars, and would secure an annuity of two hundred dollars. This sum is not large enough, I understand the object of the fund to be twofold: (*a*) a provision for the support of teachers whose usefulness is past, and (*b*) in this provision offering an inducement to them to retire from the profession—thus making room for younger men—earlier than they would were no such provision made. This being the case, the allowance should be of such value that after thirty years of service it would be equivalent, or nearly so, to the salary given up. The salary of the town or city teacher will probably average from six to eight hundred dollars a year. It is the rural teacher who stands most in need of assistance when his life's work is finished. Out of his small salary he can save little or nothing, whilst his more fortunate city brother can put by his one or two hundred dollars a year. I am not writing this in any envious spirit, but we all know the best positions are not numerous, and there are always men ready and able to fill them.

Would it not, therefore, be much better if the annuity were in proportion to the amount paid in, instead of being based upon the salary received? Let the recipients be divided into four classes, the annuity being five-sixths of the total assessment.*

The following table will illustrate my meaning:

CLASS.	AMOUNT OF ANNUAL ASSESSMENT.	TOTAL AMOUNT PAID IN.	ANNUITY.
I.	$20.	$600.	$500.
II.	$16.	$480.	$400.
III.	$12.	$360.	$300.
IV.	$ 8.	$240.	$200.

The membership in class IV. to be compulsory, allowing all who desire to become members of any other class to do so upon paying the assessment of that class; the condition upon which a member of a lower class could become a member of a higher being the payment of the back increase in assessment with compound interest at six per cent. per annum. For instance, John Doe after teaching for five years wishes to join class I. His back assessment plus the interest is $67.64, upon payment of which his name is transferred to class I. If he has to pay compound interest on his back assessment he will see it is to his advantage to join the higher class when he begins teaching.

Take another view of the question:

Richard Roe, upon entering the profession, joins class I. For twelve years he pays his annual assessment of twenty dollars, amounting to two hundred and forty dollars. He meets with reverses, and cannot keep up his payments. He requests the department to transfer his name to class II. For three years he will have nothing to pay, the amount already paid covering that period in the second class. Should he still be unable to make his payments, his name can be passed to the third class, and if the worst comes to the worst, he has a paid-up annuity of two hundred dollars a year when his thirty years are finished.

From the foregoing it will be seen that I claim the right to enjoy the same annuity as my better salaried fellow-teacher, provided I am willing to pay for it. The justice of this claim I think none will dispute.

The following approximate estimate, based upon the supposition that all the male teachers were members of the first class, shows what would have been the receipts and expenditures of the fund for 1879.

RECEIPTS.

Assessment of $20 00 each on 3153 male teachers	$63,060
" 2 00 " 3443 " "	6,886
" 2 00 " say 312 high school teachers	624
" 2 00 " 77 Inspectors	154
Total Receipts	$70,724

EXPENDITURE.

Say the average number of years taught by the 369 annuitants was 22, this would give an annuity of $366 each, or an aggregate of $131,760.

At first sight, the deficit of $61,000 may startle us, but we must not forget that had the Fund been begun, say in 1858, with the same assessment as above properly invested at six per cent., at the end of 1878 the *capital account* would have been nearly if not quite two and a quarter millions of dollars, the interest alone of which would have more than paid the annuities of 1879. I think I cannot be charged with "cooking" my figures in favor of my argument; at any rate I have endeavored not to do so. An opportunity now presents itself to test some such scheme as I have suggested. The one point I, as a teacher of over twenty years' standing, would press upon the committee is the advisability of asking that the annuity be based upon the amount paid in, and not upon the average salary. When the new bill becomes law, let it not be said that its clauses are in favor of the few to the setting aside of the rights of the many.

I am sure you will pardon the liberty I have taken in thus addressing you through an open letter, and beg you will clear your mind of any suspicion of officiousness on my part. "In the multitude of counsellors there is safety." My only object in presenting my views is a desire to aid in placing the fund upon a secure and business foundation.

Very truly yours,
C. H. ASHDOWN,

Sandwich, 16th April, 1881.

[We are indebted to Mr. Ashdown for so clear a statement of our own opinions in reference to the clause referred to. By reference to the report of the Toronto Teachers' Association meeting, it will be seen that Mr. Ashdown's views were adopted by that body. We hope that a free use may be made of our columns in discussing this important question. The circular issued does not in all points meet the views of the Legislative Committee.—ED.]

To the Editor of the Canada School Journal:

SIR,—In your critique on my official report for 1879, as given in the March No. of the SCHOOL JOURNAL, there are certain expressions and statements of which I feel I have a right to complain. I would gladly be silent, but as my silence might be misinterpreted, I ask room in your next issue for a few words by way of clearance and denial. I will not trouble you again on the subject.

First. "Attack on Mathematics." I made no such attack.

Second. "Unsupported assertion that the study of Mathematics has proved and is proving injurious to the intellectual life of the rising generation."

Nowhere have I written, never have I thought such a grotesque absurdity. I am amazed to find it attributed to me in an educational journal published by a respectable house.

Third. "He affirms that the solution of problems is of but small educational value." If your readers will take the trouble to read my words *in their connection*, they will see that my reference is to the "problems" that are in vogue amongst us, many of which high authority holds to be unsuitable and injurious for the children to whom they are proposed. The evil is even greater in the Public Schools than in the High Schools. "Can nothing be done,"-said an indignant mother to me the other day, "to do away with all these sums?"—holding up for my inspection a formidable list of "problems" which her little twelve year old was wrestling with at ten o'clock at night. "There's no time for grammar, or history or geography, nothing but sums!" My objection is not to problems (so that Mill does not trouble me at all), but to the excess of them, and to the unsuitable character of many of them for pupils of tender age, and with no special mathematical tastes or aptitudes. I put it to the teachers of Ontario, whether this *problem mania* is not discouraging and disheartening many of their most promising and painstaking scholars, and driving not a few from their schools altogether.

Fourth. You question the correctness of my belief that most of the mathematical teachers, especially University men, are with me in thinking that our school training is getting one-sided. It would be an offence against decency for me to quote confidential conversations with school officers, but I made the statement in full view of my responsibility for it, and on due authority, and you must pardon me for claiming that my opportunities for ascertaining the opinion of teachers are not less than your own. I abide by my belief. In confirmation, I refer you to the resolution on the subject of undue mathematical predominance in the high schools, adopted at the last meeting of the High School Section of the Ontario Teachers' Association, August 12th, 1880. But in truth the fact is too notorious to need confirmation.

* Five-sixths of the total assessment gives the same annuity as one-sixtieth of the average salary multiplied by the years of service.

Lastly. I am glad to agree with you, as I had done in my report, as to the improvement that has been made of late years in the mathematical teaching of our schools. But when trustees and parents and teachers and pupils unite, as they do, to beg us to do something to lessen the strain that is being put upon the children by the long strings of knotty questions that they take with them to be solved at home, that thrust their English studies to the wall, and too often destroy their usefulness as members of the family circle, it is hard to resist the conviction that we have in Ontario forgotten that golden rule in education, "Ne quid nimis."

Yours, &c.,

Rosedale, March 26th. S. ARTHUR MARLING.

To the Editor of the Canada School Journal:

SIR,—Permit me, through your columns, to inform the officers of the Teachers' Associations who have invited me to take part in their meetings, that, acting under medical advice, I am forced to give up all extra work for the present. Perhaps I may be able to attend some of the associations to be held towards the end of the year.

J. A. MCLELLAN.

Practical Department.

NORMAL OUTLINE ON ATTENTION.

BY JAMES L. HUGHES.

1. DEFINITION.—Attention is the directing of the powers of the mind to the impressions made through the senses.

2. IMPORTANCE.—"There can be no teaching without attention." —*Hart.* "Genius is nothing but continued attention."—*Brooks.* "The great skill of the teacher is to get and keep the attention of his scholars."—*Locke.*

3. KINDS. —{ *Negative.*—Passive, apparent attention only. *Positive.*—Notes and examines the impressions made through the senses.

Positive as to its SOURCE is either *Instinctive* or *Controlled.* It is *instinctive* when attracted or given without an effort of the will. It is *controlled* or voluntary when directed by the will, not merely for the pleasure received, but with a view to advantage of some kind.

4. DESIRABLE CHARACTERISTICS :—

(*a.*) It should be *active.*

(*b.*) It should be *willingly given*, not forced, by coaxing, scolding, threatening, demanding, etc.

(*c.*) It should be *undivided.* Concentration, shutting out all sensations but those connected with the subject immediately under consideration, is of vital importance. Focus the energies of the mind. "My golden rule has been to devote myself completely to whatever I tried to do."—*Dickens.*

(*d.*) It should be *intense.* The degree of intensity decides the permanency of impressions. "Intensity of sensation, whether pleasing or not, is power."—*Bain.*

(*e.*) It should be *sustained.* "Because I have acquired the power of intense and prolonged attention, I am able to accomplish what others fail to do."—*Newton.*

5. CONDITIONS OF ATTENTION :—

(*a.*) *Physical comfort.* Lighting, ventilation, temperature, and seating must be carefully attended to.

(*b.*) Pupils should be allowed to *change their posture* occasionally.

(*c.*) The *classification* must be good.

(*d.*) The *order* must be good.

(*e.*) The teacher must have *full control.*

6. WHAT THE TEACHER SHOULD BE IN ORDER TO WIN AND HOLD ATTENTION:—

(*a.*) Observant.

(*b.*) Attractive.

(*c.*) Cheerful.

(*d.*) Earnest.

(*e.*) Enthusiastic.

(*f.*) Quiet.

(*g.*) Decided ; possessed of "*will power.*"

7. WHAT THE TEACHER CAN DO TO GET AND KEEP THE ATTENTION OF HIS CLASS :—

(*a.*) Secure *right conditions.*

(*b.*) Preserve and stimulate the *desire* for knowledge.

(*c.*) Gratify and develop the desire for *mental activity.*

(*d.*) *Cultivate the senses* of the pupils.

8. HOW TO PRESERVE AND STIMULATE THE DESIRE FOR KNOWLEDGE :—

(*a.*) School-work should be made *pleasant.*

(*b.*) School exercises should be *varied.*

(*c.*) The child's *curiosity should be kept alive.*

(*d.*) Awakened *curiosity should be satisfied.*

(*e.*) Lessons should neither be *too easy* nor *too difficult* for the pupils in any class.

(*f.*) The steps in learning should not be *too great.*

(*g.*) Sufficient *time* should be given to admit of *thorough work* in learning.

(*h.*) Lessons must *not be too long.*

9. HOW TO GRATIFY AND DEVELOP THE DESIRE FOR MENTAL ACTIVITY :—

(*a.*) Do not *tell* in teaching, but guide the pupils in *discovering and thinking out.*

(*b.*) Give the pupils their rightful share in the *work of learning.*

(*c.*) Do not *weary* the minds of the pupils.

(*d.*) Do not *overload* the minds of the pupils.

(*e.*) *Question* largely and wisely.

(*f.*) Let pupils *question each other.*

(*g.*) Let pupils *question the teacher.*

(*h.*) Use *illustrations* of any available kind.

BRIEF NOTES OF A BRIEF VISIT TO THE PUBLIC SCHOOLS OF CINCINNATI AND CLEVELAND.

BY JAMES L. HUGHES.

The schools of Ohio have long had a good reputation. A visitor to the schools of its cities soon admits that they have not been over-praised. It is at once seen that in these cities education is not a mere skeleton of stiff bones, nor simply a well-shaped body consisting of bones and muscles, but a living organism with pure blood and a well-toned nervous system.

It is impossible to note the good points of a whole system in a short visit, so I contented myself with an examination of methods and results in the primary grades, and an investigation into the *distinguishing features* of the cities visited. It is not my intention to institute a comparison between the schools of the two cities. Those in both are excellent. I will merely give, for the benefit of my fellow-teachers in Canada, a few notes of what I saw in both cities, and then refer to those features that may be said to be characteristic of each.

READING.

Method of Teaching How to Read. The Phonic method is used in both cities. In fact, to quote from Principal MacVicar, of the Michigan State Normal School, "There is not a good school in the United States in which it is not used." It is true the system is

spoken of as the "Word and Phonic" method, but this name is utterly misleading. To be correctly understood the name should be printed "Word and PHONIC" method. For a few weeks the pupils are taught words, that they may from these words get the accurate sounds of the letters, because this is regarded as the best way of arriving at the phonic elements. But as soon as even two or three of these are taught. the pupils are set to work for themselves at *discovering* the names of words. Some teachers may wonder why if this be so, the Readers most recently published, Appleton's, and McGuffy's New, claim to be adapted to the alphabetic, word and phonic methods. The answer is easily given. The publishers of these books wish them to be used not merely in cities but rural districts, and the more excellent method has not yet been adopted by the "fossils," so that it would be a business blunder for any publisher to claim that his books were suited only for one method.

Results in Reading. The results may be briefly stated. The pupils in the classes corresponding to our senior First Book classes will read anything in English that may be written or printed for them on the blackboard. These same pupils are familiar with the *diacritical* marks of Webster's Dictionary, and will either change the pronunciation of any word as these marks are altered by the teacher, or will themselves change the marking of a word to indicate different ways of pronouncing it. What they have been trained to do so thoroughly in pronouncing and accenting words, they can apply with uniform skill in emphasizing marked words in sentences.

MUSIC.

Pupils in the senior First Book class read music in the scale of C, as easily as they read from the printed page in a reading book. They read new music matter even more readily than new reading matter. They sing new music note by note as rapidly as it can be written on the board. This is not all. Their ears have been cultivated so that they will call out the names of sounds sung by the teachers to the syllable *la*. Musical directors lead with the violin, and pupils even in the junior classes will listen to a line of music, and write down the notes on their slates. If in playing it again certain notes are changed, they will make the corresponding changes on their slates. I heard a senior Third Book class sing a new piece with two parts, and do it well. In the upper grades of the Public Schools three parts are sung, and in the High Schools four parts.

There is a marked difference in the way music is taught in the two cities. In Cincinnati there are several special music teachers; in Cleveland the music is taught as it should be, by the regular teachers, under the direction of one musical director, who teaches the teachers, selects the pieces to be sung, and tests the results of the teaching. He may require those teachers who are not securing satisfactory results in music to come for instruction every Saturday. Sceptical theorists who object to the teaching of music by the regular teachers, ought to visit Cleveland. If the purity, sweetness, and softness of tone, and the marked good taste exhibited by the pupils in singing, in addition to the other indications of proficiency already mentioned, do not satisfy them, they must be "blessed with firmly rooted prejudices."

DRAWING.

In both cities industrial drawing has been well taught for years. Tablets instead of books are used in Cincinnati. These consist of pads of drawing paper, the chief advantages claimed being cleanliness, facility for comparing results, and continued interest on the part of the pupil, who does not know until he has finished one sheet what he is likely to have to draw on the next.

In Cleveland Mr. Aborn, the Supervisor of Drawing, has recently introduced a novel method of developing the tastes of the individual pupil in this subject. Pupils are told to draw whatever they choose, the teacher merely dealing with the results produced, commending earnest effort always, and making suggestions when proper to do so. Sometimes the drawing exercise takes the form of telling a story in pictures. In one room I saw a class illustrating "Mary had a little lamb." Others were relating in hieroglyphics some of "Mother Goose's Melodies," or other favorite nursery gems. One lady took an excursion in imagination into the country with her pupils, and after they had conversed pleasantly for a few minutes about the various objects of interest to be seen there, she set them to work to produce on their slates in two minutes their ideals of the various things to be seen on a farm.

Whether we agree or not with Mr. Aborn's view, that this is the philosophical method of developing artistic talent, it must be acknowledged that once a week such a lesson would be of great educational value. We should teach composition with the *pencil* as well as with the *pen*. In the advanced classes some very good pictures are drawn, each of which tells a story as well as if related in words.

WRITING.

This subject is taught as in Canadian cities. Every pupil is taught to read and write script from the beginning.

NUMBER.

Notation and numeration are taught by means of bundles of small slats. One pupil represents the units column, another the tens, another the hundreds, &c. When the first pupil gets ten slats they are tied in one bundle, and given to the second pupil. When the second pupil receives ten bundles, they are bound into *one* bundle and handed to the third pupil, &c. There are columns ruled on the board to correspond with the several pupils, in which the changes made in using the slats are indicated by corresponding changes in the figures. Straws or small sticks might be used instead of slats.

Ear teaching has generally been superseded all over the world by *eye* teaching; but *hand* teaching is a greater improvement on *eye* teaching, than the latter was on *ear* teaching. It is well to let each pupil *see* for himself; it is infinitely better to allow him to *do* for himself. The numeral frame mode was a great improvement in the teaching of number and the elementary tables, but it was only adapted to eye-teaching after all. How much better that every pupil should have the privilege of performing each experiment for himself. This is accomplished by having a wire with balls on it strung between two screw-eyes, on the front of each pupil's desk in the primary departments. Large beads will do as well as balls, and they are cheaper.

Mr. Peaslee, Superintendent in Cincinnati, has an original method of drilling on the separation of numbers into their parts, so that the pupil may be able to add by tens; 27 + 8 would be added 27 and 3 are 30 and 5 are 35; 35 + 9 would be added 35 and 5 are 40 and 4 are 44, and so on. The pupil separates 8 into 3 + 5, and 9 into 5 + 4, so as to make in the first place the even 30, and in the second place the even 40. The classes add in this way with considerable facility, and with great accuracy.

ORTHOEPY.

Great attention is given in both cities to accurate pronunciation of words. This is an easy matter when the pupils are taught reading as described above. The children in the lower divisions understand the meaning of the marks in the dictionary better than many teachers in some districts.

GENERAL HINTS.

1. Teachers make free use of their blackboards in parts that can be spared for lists of deserving pupils, headed *Our Climbers; Our Wide Awakes; Best Slate Work*, &c., &c.

2. When a teacher erases writing or printing in a reading lesson, she calls for the name of a word as she erases it. Of course she

does not rub out regularly from the beginning to the end of a line. This compels intense attention, and develops quickness and accuracy in observation. The same course is adopted when erasing music.

3. The staff is generally painted on the board for music teaching.

4. Some teachers keep a record of the work of the pupils on the blackboard, using crayons of different colors to mark failures in the different subjects.

5. In class exercises for vocal culture, brief selections are recited calculated to develop clearness of articulation. The tone in which the pupils are to speak in these simultaneous exercises is indicated by the height at which the teacher holds her hand. A whole class will change with the greatest ease from a martial to a conversational tone.

6. In teaching music, teachers in Cleveland tell the pupils to sing the words of "Jack and Gill," or any other familiar piece, giving the sounds written by the teacher on the board to the successive words. This is better than singing *la*, or any other syllable to each sound. It must be understood that the singing by the pupils proceeds as the teacher writes the notes on the staff.

7. I witnessed a capital exercise in the class of Miss Stephan, in the Cleveland training school, in which the little folks (First Book) made their own practical problems in arithmetic. Each pupil when called on stated his own problem and immediately solved it. This exercise could scarcely be surpassed as a language lesson, independent of its utility as a discipline to the mind in other ways.

8. Pupils are called upon to *sing* individually as well as to *read* individually. This may be done, a line at a time, or a verse at a time. "Sing, Jimmy," brings Jimmy to his feet without hesitation.

CINCINNATI SPECIALTIES.

1. *Slates.* Every slate has to be scoured once a week, the frame as well as the slate itself. The "home exercise" of pupils in the lower classes consists in ruling their slates for arithmetic, spelling, &c. There is a definite form for corresponding grades to which all must adhere. The moral effect of these two rules in cultivating habits of cleanliness and exactness can scarcely be estimated.

2. *Literary selections for recitation.* Instead of using the recitation hour for mere amusement, or devoting it to the training of a few stars in declamation, one hour per week is spent in learning and reciting the choicest literary gems of the English language. A few minutes are taken during the opening exercises usually to teach the new selections. Eight lines must be learned in every grade each week. The teacher teaches the selections in school, line by line from the blackboard, explaining the meaning as she proceeds. The pupils repeat the gems individually, simultaneously, or by a combination of the two methods, so as to give as much variety as possible to the exercises, and thus increase their interest. A pupil who attends regularly will thus commit to memory over forty selections in a year, and in a school life of ten years will learn about four hundred of the best extracts from the best writers.

This practice was introduced by Mr. Peaslee three years ago, and has already given him a very wide and justly earned reputation. The benefits that follow from it are many.

(*a*) It cultivates the memories of the pupils.

(*b*) It stores their memories with the best writings at a time when these memories are most retentive.

(*c*) It is the best possible practical teaching of elocution. As the teacher puts the new piece on the board, she recites it line by line, carefully noting and slightly exaggerating the pauses, inflections, emphasis and tone, and is imitated by her pupils. She repeats it until they give it in a manner to satisfy her. The whole of the work is done in a most spirited manner, so that after a couple of years' practice it is next to impossible for a pupil to speak or read in a drawling, monotonous manner.

(*d*) It assists greatly in teaching composition. The pupils gain large additions to their vocabularies; these additions consist of the words used by the best authors, and more than that, they are acquired in the connection in which they were used by the highest authorities.

(*e*) The learning of these selections constitutes one of the most practicable methods of teaching a pure morality.

3. *Celebration of Authors' birthdays.* In order to awaken a deeper interest in American authors and their works, the birthdays of leading writers are celebrated in the schools. For some time previous to Longfellow's birthday the pupils learned selections from his works, and were taught incidents connected with his life. The results of these teachings were embodied in essays, and the best of these were read on celebration day. The selections from his works were also recited. Such exercises are calculated to make the pupils take a personal interest in the authors whose birthdays they celebrate.

John B. Peaslee, Ph. D., Superintendent of the Cincinnati Public Schools, is a man in the prime of life. He is a capital combination of well-balanced physical and mental powers. Physically he combines strength, quickness, and endurance; his prominent mental characteristics are clearness, decision, concentration and will power. Possessed of these characteristics he naturally directs his attention chiefly to one thing at a time. He has on this account been called a *hobbyist*, but no one has ventured to call him a *theorist*. The result which necessarily follows intense and prolonged attention to one subject is gradual enlargement of view and clearness of perception as to its scope and utility, so that Dr. Peaslee's reforms have not been revolutions but natural growths.

CLEVELAND SPECIALTIES.

While the schools of Cleveland cannot be said to exhibit any novelties, they have long been known in Europe as well as America to be fully equal to any in the United States. To say this of them heralds their praises moderately. There seems to be no weak spot in the system. This is what one would expect after meeting Superintendent Rickoff, and learning that he had been in charge of the schools for fourteen years. Balance, harmony, growth, are noticeable everywhere. The features that attract the attention of a visitor are:

1. There are no masters in the schools. I visited one school building where a lady presided over thirty classes, and is in every respect a success.

2. There is no disorder either in the schoolrooms, in the yards, or on the streets.

3. There seems to be no direct restraint exercised by the teachers.

4. The spirit manifested by the teachers towards the pupils is perhaps the most characteristic feature of the Cleveland schools. They seem to have caught the true kindergarten spirit of regarding children as beings to be kindly led and judiciously guided instead of driven. They recognize the fact that the wisest way to eradicate evil is to develop the pure and good.

SUPERINTENDENT RICKOFF.

"What is the secret of Mr. Rickoff's power?" I inquired of one of his teachers. "He inspires us," was the answer. No higher praise could be given. Mr. Rickoff is past the meridian of life, but he will never be old. He appears to have retained the instincts and sympathies of childhood in full vigor. His face shines when he speaks to a child, not from a sense of duty, or expediency, but because he cannot help it; not with a view of making the child happy, but because doing so adds to his own happiness. Tender-

ness is with him a characteristic, not a mere sentiment. Strength and force are elements of his character, which are quite as fully developed as his gentleness. He is the controlling power in the management of the schools, from the primary departments to the senior classes in the High Schools. He is an organizer, and claims that he laid the foundation of the Ohio system of grading, while Superintendent of the schools of Cincinnati many years ago. He is the architect for the School Board, so far as ventilation and the general plans of the buildings are concerned. If School Boards generally would leave these matters in the hands of their superintendents, the health and comfort of children would not be sacrificed as they often are in schools.

HINTS ON TEACHING SPELLING.

When Should Pupils Begin to Learn to Spell?—There should be no *oral* spelling or *written* spelling either *from memory* during the first year and a half or two years of school life; yet pupils should be learning to spell from the start. How? By *copying*, COPYING, COPYING. By copying in script well-written sentences set by the teacher on the board. Sometimes these sentences may be taken from the primer, but they should generally be the language of the pupils themselves, including certain words given by the teacher.

Assigning Spelling Lessons.—The teacher should not merely say, "prepare the tenth lesson" or "your dictation will be the first twelve lines on page 24." The pupils should pronounce after the teacher the words of the lesson, looking at them carefully as they do so. Peculiar or difficult words should be written on the blackboard, and spelled simultaneously by the pupils, and hints should be given to aid in the preparation of the lesson.

Preparing Spelling Lessons.—We wish to teach the forms of the words, not their sounds. Unfortunately, the forms of words do not always agree with the sounds in English; hence the form of a word must be impressed on the mind through the *eye* and not the *ear*. It is perfectly clear, therefore, that the art of making good spellers consists in teaching pupils to see words accurately. The *London Times* once said, "Spelling is learnt by *reading*, and nothing but *reading* can teach *spelling*." It may be accepted as a rule, that a good reader is always a good speller. These facts all point the thoughtful teacher to the conclusion that we have already stated—spelling depends on the power of *seeing with precision*. It follows that the exercise which compels the pupil to look most carefully at words must be the best method of preparing a spelling lesson. Unquestionably this exercise is *transcription*. Let the pupils copy on their slates the lesson to be prepared. The lesson may be copied as a home exercise, if due care be taken by the teacher in examining both spelling and writing. This is necessary in order to compel scrutinizing attention to the words to be copied. The whole value of the exercise depends on this being done.

Repeating the letters of a word orally is of little lasting benefit. Make the pupils *see the words*, and, if possible, *never let a pupil see a word wrongly spelled*.

Testing Spelling Classes.—There are only two methods, *oral* and *written*. The *oral* method alone is of very little practical value. An American writer records the case of a young man "who won three prizes at spelling schools, but made five mistakes in spelling in a note written to a School Board." Oral spelling does not accustom the *eye* to the form of the word in writing. This is a fatal objection to it, and all modern teachers recommend that spelling lessons be conducted chiefly in writing.

Correcting Spelling Lessons.—They must be corrected thoroughly. If proper preparation has been made as recommended, *very few* errors will be made. In a large class the teacher will not be able to examine personally the book or slate of each pupil, except in the case of review lessons consisting of words previously misspelled in the class. These should always be examined by the teacher. In other lessons one of the following plans may be adopted:

1. The pupils exchange slates, and the teacher gives the correct spelling word by word, the pupils marking those that are wrong.
2. Pupils retain their own slates, and different pupils are called on to spell the words. Those agreeing with the spelling given indicate by raising the hand, *before the teacher decides as to its correctness*. Marking as before.
3. Slates are exchanged and the corrections made as in No. 2.
4. While the teacher writes the correct spelling on the board, each pupil may correct his own work, and slates and books be exchanged for revision only. The latter method is probably the best with honest pupils.

In all cases where slates are exchanged, the pupil owning the slate should have the right to appeal against the marking done by his neighbor.

Reviews.—Each pupil should write correctly the words which he misses, about five times, to impress the correct forms on his mind. In addition to this, he ought to make a list at the end of his book of all the errors he makes. From this list the teacher should prepare his reviews. The words missed are the only words that need to be taught. "Leave no enemy in the rear." *Review regularly*.

General Suggestions. 1.—The teacher should always *articulate clearly* and *pronounce correctly* when giving words for spelling.

2. Never *overstrain* the enunciation of a word in order to indicate its spelling.
3. Allow only *one trial* in spelling orally or in writing.
4. In spelling orally, the divisions into syllables should be marked by *slight pauses*, but in no other way.
5. Do not assign lessons *too difficult* for the pupils who have to prepare them. This compels the pupils to spell badly.
6. It is desirable that spelling should be taught to a considerable extent by means of *composition*, in order to give the pupils practice in spelling the words in their *own* vocabularies.
7. In some of the dictation lessons time may be saved by having only the words in *italics* spelled. The teacher should read the whole sentence and emphasize the word to be spelled.—*Gage's Practical Speller*.

SCHOOL HOURS.

AN ADDRESS DELIVERED BEFORE THE TORONTO TEACHERS' ASSOCIATION BY F. S. SPENCE.

Mr. President, Ladies, and Gentlemen,—Although the topic for our consideration this morning is seriously important, I shall not attempt any exhaustive or elaborate address on its varied details. My intention is merely to suggest a few practical ideas round which discussion of the subject may be concentrated.

Let me remind you by way of preliminary, that public schools are instituted, and ought to be conducted, entirely in the interests of the public; that public school teachers, trustees, inspectors, and all the other appertainings of the system are successful only as far as they promote these interests; and that, in the consideration of such a subject as this, the primary inquiry ought to be, not "What would be most agreeable to teachers?" but "What would be most beneficial to their pupils, and most advantageous to the community at large?"

That community is not itself best qualified to answer such a question. It is only from the vantage ground of professional knowledge and experience that all the bearings of any educational problem can be taken in. We must draw our conclusions as inde-

pendently of popular prejudice as of personal feeling; and having done this, it then becomes our business in the first place to bring public sentiment as far as possible into harmony with our ideas, and in the second place to bring the working out of our ideas as far as possible into harmony with public sentiment. In other words. we must consult primarily the interests and secondarily the wishes of our employers, the people, "whose we are and whom we ought to serve."

A good deal of complaint has been made about the unhealthy cramming and over-work to which girls and boys are subjected under our present system of competitive teaching; and these complaints are the more worthy of consideration from the fact that they come not merely, nor even mainly, from the parents whose children are crammed, but from the teachers who do the cramming, and who of course ought to know all about it.

Now, intensity of application to work is one of the most important habits that we can induce or assist our pupils to form. Attention to study cannot be too close, and relief from the pressure must be sought, not in diminishing the quality or force of the mind-tension, but in shortening the time of its exercise, and specially of its continuous exercise.

The development of this hard-study faculty can only be secured by long and careful training. To require its exercise to any extent of young pupils is simply absurd. Very short lessons with long intervals ought to be the rule in all primary classes. Keeping children in the attitude, while they are not in the act of learning is worse than useless. It is training in idleness, enforcing dissimulation, and compelling the formation of habits that must seriously militate against subsequent progress. Study hours at this period of school life should be few and brief, and should be increased only with the advance of age and mental and physical strength.

It has been proposed to shorten the hours of study by discontinuing the assigning of lessons for home preparation, but this plan is not commendable. We must aim as far as possible to make our pupils able to study without a teacher's assistance, to prepare them for independent exertion after their school course is finished; and this is best accomplished by requiring—without immediate supervision—the performance of work the accuracy of which is afterwards carefully tested. For this reason we cannot afford to dispense with home lessons, and the easing off must be done in some other direction.

The regular school hours, in most cities and towns, at present number five, with, on an average, say one additional hour of home preparation; giving in all six hours per day of study—entirely too much for children in our junior class, and more than they can possibly do, in the way in which study ought to be done.

I am not in possession of data from the consideration of which a definite scheme might be deduced, but from what I know I would favor some such plan as the following:

Let two hours of study per day be the maximum required of children in the first part of the first-book—where they would probably average six years of age—and let this be increased by the addition of half-an-hour for each division to which the pupil is promoted, counting two grades of promotion, *i.e.*, two divisions, to each successive reading-book.

This would bring us to the present six hours in the junior fifth-book class at say thirteen or fourteen years of age, which is quite as early as it ought to be attempted.

An important fact confronts us here; one that at first sight might be fancied a drawback to the usefulness of the proposed reform. In all populous localities, very many girls and boys are much better off at school than they would be anywhere else. Some parents are so situated that they cannot, and some are so careless that they will not, look after their children as they should. In such cases, away from the teacher means away from all restraining and elevating influences; probably undergoing the street education that hardly ever fails to turn out apt and accomplished graduates; and shortening the hours of school is simply lengthening the hours of exposure to contaminating associations. Against such results we cannot guard too carefully. Relief must be sought that will neither diminish intentness while study goes on, nor shorten the time of the teacher's supervision and control.

It may appear somewhat paradoxical to propose to remedy the evils of over-work by increasing the number of departments of work, but in the present instance this method can be made effectual in securing that result.

There are several branches of instruction that are now barely recognized in our public school curriculum, and yet are so important that their omission leaves us a very imperfect and one-sided education; and these branches are of such a nature that attention given to them would not at all increase the mental tension of which there is so much complaint.

One of these is physical education, development of muscle, &c., of which we hear so much but see so little. All our energies as educators are devoted to developing the mind, and the soil in which it roots, and on which it depends, is utterly neglected.

Probably much of the ill-health and physical weakness attributed to excess of mental exertion are really caused by lack of bodily exertion. Dumb-bells might often supersede doctors. Taking half-an-hour each half-day from cramming and giving it to scientific gymnastics would be a much more rational method of relief from the brain-pressure, than turning out our boys for that half-hour to learn bad practices on our streets.

Correct habits—not merely sound theories—of breathing, swimming, walking and exercising, and living generally would be, to nine-tenths of our pupils, of far more practical benefit than a knowledge of grammar or fractions.

Another of these neglected branches is morality—one of the most important and most difficult matters with which a teacher has to deal. We may rationalize about it as we choose, but experience shows unmistakably that (at any rate with children) morality is much more a habit than it is the working out of any ethical system; and is to be secured by directing the course of conduct that develops habit more than by inculcating theories and principles. A boy's character is determined by what he is and does, not by what he knows. That character is formed, not in the restraining atmosphere of school, but in the untrammelled associations of every-day life—far more in the play-ground than in the class-room. Let pupils have as much as possible of this free out-door intercourse under the watchful eyes of judicious teachers. Then they will learn to respect each other's rights; to play without cheating, to talk without swearing, to associate without teasing or bullying, and the teacher will note and remember the incipient tendencies that may almost imperceptibly be developed or repressed. Yard superintendence is one of the most imperative of school duties; and, as a rule, children had better be an hour by themselves at their lessons than ten minutes by themselves at play. The necessity of attention to this subject is imperative. The character-tone of our growing-up boys is far below what it ought to be, and it is positively dangerous to permit their promiscuous crowding and play without any direction or restraint.

What has been said about morality applies more to boys, but what has been said about physical education applies perhaps as much more to girls. Boys take more exercise in their games, and occasionally have the sawing of wood and such like blessings vouchsafed by judicious parents. And if more of the latter would provide some active work for a part of their sons' spare time, they would do incalculable good to the souls and bodies of some embryotic citizens, who are now ruining both in loafing idly or worse than idly round our lanes and lamp-posts.

In view of such facts as these but one conclusion can be drawn, that is, the longer the hours of school the better for the scholars, provided by school hours we do not mean simply hours of study, but hours of education and supervision.

This brings us face to face with the problem of where the dividing line between the duties of parents and teachers is to be drawn. Absolutely there is no such line. As far as children are concerned, teachers are a necessary evil, doing the work that in a perfect state of society ought to be the work of parents and the work of home. At present we find that one department of this work is being overdone by the teacher, and the remedy is simply to do less of that and more of something else.

The question comes up: If the duration of school hours is so desirable, should they not be lengthened? There are two reasons for answering emphatically in the negative. In the first place, it is a serious wrong to usurp the functions and lessen the responsibilities of the sacred institution of Home. Society may be too artificial, too much organised. Public schools should never become what boarding schools now are—a dangerous interference with the natural and healthful relations of domestic life. And in the second place, even where the home is so far from what it ought to be that children are happier and safer at school, we must be honest. The public is not yet educated to proper appreciation of what the teacher does, and to equitable remuneration for the time he already spends in its service; it would hardly be willing to pay for more. It is wicked to defraud or oppress even ourselves. Justice is a virtue as well as generosity, and compelling the uncompensated teaching of morality would be rather inconsistent.

In connection with over-work there is a matter which must not be unnoticed. There obtains in some schools a system of well-named "imposition work," that is not merely an imposition but an outrage upon children who, it is admitted, are already over-burdened with study. If a duty has been wilfully neglected at its proper time, its performance in the scholar's spare time ought of course to be insisted upon as a point of honesty. If, say, a dictation lesson has not been prepared, there is a manifest advantage in requiring the writing out of the misspelled words a number of times. Such extra work is only right. But it is not right, because of some trifling act of misconduct, to require a child to write out several pages of a reading book, or perform some long, wearisome arithmetic calculation, in addition to his regular lessons. To compel a boy who has other school work in the evenings to sit writing at such an unmeaning task, with restless nerves, and tired hand, and aching head, when he ought to be at play or asleep, is as essentially and literally corporal punishment as is the much-condemned whipping, that would be far less injurious to either body or mind. Apart from this, it is bad to develop in a child any feeling of a relationship between hard study and punishment. This is one direction in which over-work may often be profitably curtailed.

Study hours might be somewhat shortened by lengthening the mid-day intermission. In cities and towns this would also permit the abolition of the reprehensible practice of lunching in school-rooms, and so would promote the health and comfort of both pupils and teachers. At noon, a boy is a very convenient article about a house, to fill stoves and run messages, and a girl is often exceedingly useful in preparing dinner, washing dishes, and so on. This is the particular time of the day that absence from school would be safest for scholars, and if the noon recess were lengthened, we might compel them to go home without hardship to any, and probably with benefit to all. There would be little loafing done then, and a longer rest from study at mid-day would be a good plan of easing off some of the pressure.

In conclusion, to sum up what has been advanced:—

I. We want, as soon as possible, a graduated system of study, gymnastics and play, all directed by the teacher, and severally proportioned to the age and proficiency of the pupils.

II. As measures of immediately practical relief the following might be adopted: 1. Let the forenoon recess be abolished and its place supplied by half-an-hour of gymnastic drill. 2. Let the afternoon recess be made half-an-hour, and in it let all teachers mix with and oversee their scholars. 3. Let the schools be closed for two hours at noon.

These changes would be advantageous to all concerned, a gain to the teachers, a convenience to the parents, and a benefit to the scholars. We would still have five hours of study, four in the class-room and one at home, quite enough for most of our pupils; and our school curriculum would more fully and rightly recognise the existence of muscles and morals as well as minds.

THE ADVANTAGES OF IGNORANCE.

BY PROFESSOR F. W. CLARKE.

The occasional blissfulness of ignorance has long been the subject of one of our most popular proverbs. Coupled with a positive statement as to the folly of wisdom, it passes from mouth to mouth with the authority of an oracle. But the support given to the dogma is usually of a passive kind. The doctrine is stated, but not defended; while, on the other hand, our journals teem with arguments in favor of education, upon the importance of schools, and about the best methods of electing school trustees. The fact that the latter represent, in their own persons, the advantages of ignorance—that educated men can rarely attain to such superior positions—is never urged with anything like proper vigor. Education in one's self imbues one with prejudices concerning the education of others; and such prejudices, with their attendant partialities, ought to be rigidly excluded from the management of public institutions. Accordingly, in actual practice, uneducated men are placed as supervisors above thousands of cultivated teachers; and thus, in spite of the schools, the superiority of ignorance is clearly demonstrated.

In every walk of life, in all professions, a similar superiority is manifest. At the polls, the trained and intelligent statesman is defeated by the loud-mouthed stump-speaker, who knows nothing of jurisprudence, less of political economy, and only enough of finance to draw and spend his salary with commendable regularity. The broadly educated, highly cultivated theologian is surpassed in popular esteem by the swaggering revivalist, who tears up human feelings by the roots as a child pulls up sprouting beans for growing the wrong way. In medicine, the quack has five times the patronage of the well-informed physician, and makes a fat living where the latter would only starve. Sick people are fond of liberal treatment, and like to be thought worse off than they really are. You have a slight cold, and a good doctor charges five dollars for curing you. But the brilliant empiric calls it congestion of the lungs, diphtheria, or pneumonia, visits you twice as often, and charges three times as much, and you feel that you have got a great deal more for your money. Your own ignorance chimes in with his, and both are better satisfied. Your stomach-ache is magnified into gastric fever; your boil becomes an incipient cancer; a slight chill indicates approaching typhoid. The quack flatters your self-love, exalts your own importance in exaggerating that of your disease, comforts you with a good, sympathetic scare, and depletes your veins and your pockets with admirable equanimity.

The old saying that "fools rush in where angels fear to tread" affords another argument in behalf of the fools. To be sure, the natural history of the angel species has been but imperfectly studied; yet here again our very ignorance helps us. Theoretically, we should all like to be angels; but practically, we prefer to stay where we are. Besides, familiarity with angels might be exceedingly uncomfortable; especially if they should take it into the ghosts of their late head to visit us in spook-fashion, with the accompaniments of blue-fire and winding sheets. But to the point again. Education makes men cautious and calculating, careful of precedents, afraid of mistakes. Many a time the brilliant audacity of a daring ignoramus has achieved successes which would have been unattainable to orderly skill and training. Lord Timothy Dexter, that most inspired of idiots, sent a cargo of warming pans to the West Indies. The natives took the bottoms for sugar scoops and the perforated lids for strainers, and Dexter gained a fortune out of his ridiculous venture. Zachary Taylor, whipped by a Mexican army, was too bad a soldier to be conscious of his defeat, and kept on fighting. His adversaries, astonished at his perseverance, thought he must have hidden reserves, and incontinently ran away. Thus Taylor won the battle, as contemporaries say, "by sheer pluck and awkwardness." "Against stupidity the gods themselves fight powerless." Stupidity, therefore, by all rules of logic, must be superior to sense, and truly deserves, over all competitors, the crown of laurel.

The advantages of ignorance may be further illustrated by a reference to the disadvantages of omniscience. Suppose one of us could know everything, past, present and future—how uncomfortable he would be! Looking backward into remote antiquity, he would behold his ancestral ape engaged in the undignified performance of catching fleas. Turning with disgust from the past, he would find in the present many things as humiliating. Misunderstandings, bickerings, hatred, and slanders, unknown to ordinary men, would stand revealed before him. And from the coming time he would anticipate trouble and misfortune; he would see approaching evils far off in the dim distance; and not even the knowledge of attendant pleasures could quite unsadden him. To know everything would be to learn nothing—to have no hopes and no desires, since both would become equally futile. After the first excitement, one would harden into a mere automaton—an omniscient machine, with consciousness worthless, and volition a farce. Had Shakespeare

been able to foresee his commentators, his greatest works would never have been written.

There are two sides to every question. Like the good Janus, all things are double-faced. Knowledge is not unalloyed good; neither is ignorance unadulterated evil. If ignorance were abolished, how many teachers would starve for want of occupation! Were all fools to become sensible, what would the knaves do for a living? The ignoramus, so long as he is ignorant of his ignorance, is comfortable and self-satisfied. The educated man sees how slender his attainments really are, and discontentedly strives for deeper knowledge. Let us be impartial, whether we praise, blame, or satirize. Blessed be stupidity, for it shall not be conscious of its own deficiencies.

SCHOOL AMUSEMENTS.

Every teacher knows that pupils will tire even of the best kind of teaching. An eloquent address will fatigue if it is too long. To say nothing of the bad air, the glaring light, the bare walls, the monotonous voice of the teacher, the strong likeness to-day has to yesterday, the unattractiveness of the subjects, the repulsiveness of abstract themes to children—there is a protest in the blood of youth against confinement, and a demand for amusement. The child that loves to study and does not like to play is an unhealthy being, and ought to be turned out of the school-room and made to play and get rid of his morbidity. The child may restrain his love of play, but should it be expected of him to hate it and give it up?

What can be done to enliven the school room? What can be one on cloudy, oppressive days to relieve the monotony, the wearing tedium? What can be done to arrest the attention that will wander? What can be done to employ another side of the pupil's nature and rest the one that is wearied? What can be done to throw some jollity into the room and make all happy? These questions have been asked over and over by thousands of teachers. Some let in fun and pleasure at the very time and in just the quantity it is needed, and thus prevent idleness and the breaking of rules. They render the school-room attractive, because the pupil associates delight with it; smiles are seen and not frowns "forever and for aye."

I have selected a few of the various expedients I have used from time to time to enliven the school-room. It has been kept in view that instruction should be imparted (if possible) as well as amusement; still the main thing is amusement.

1. *Organization.*—It is of importance to know how to organize "a meeting;" and it employs and amuses too. Let the teacher retire from his chair and put the school into the hands of his pupils. One will rise and call the meeting to order—("I call the meeting to order.") After a moment's waiting, he will nominate a chairman— ("I nominate ——— for chairman of this meeting.") Another pupil seconds this nomination—("I second that nomination." The first then puts his motion—("Mr. ——— has been nominated for chairman; all in favor of this nomination will please to say 'ay.' Mr. ——— is chosen.") The chairman then takes the chair and asks for the choosing of a secretary—("Some one will please nominate a secretary.") When one is named he calls for votes. ("All in favor of ——— for secretary will please to say 'ay.'") He then calls for the business to be transacted—("Gentlemen, what is your pleasure?") Some pupil then names some business, of course suggested by the teacher. This may be grave or gay as is thought best—"The Indian Question," "Why do boys like peanuts?" "Is mince pie unhealthy?" etc. After due debate the meeting adjourns. (Some pupil says, "I move this meeting do now adjourn;" another says, "I second it," and the presiding officer puts it.)

This is susceptible of much variation, and it may be made very interesting. The teacher should teach the rules which govern such bodies—such as those pertaining to amendments, laying on the table, adjourning, etc. A book should be kept and the minutes read. The teacher should be near the chairman to suggest modes of keeping order, but latitude should be allowed; whispering, and even movement permitted, or else it is *school* still, and that is what is to be avoided.

2. *A Geography Game.*—This is played as follows:—Sides are chosen, then one side begins by giving a word, say New York. The one at the head of the other side "caps" it by saying Kingston—(New York ends with k and Kingston begins with K.) The second pupil on the first side calls out New Bedford, and so the game goes on. If a pupil fails, in a certain number of seconds (five generally), to give a word, it is marked as a failure for that side. An umpire must be chosen and strict count kept. Some require the word to be defined, as "sea," "lake," etc., but this retards the game. Some have the words written down by a "scribe." There are many rules of action, but these will be devised by the teacher.

3. *The Biography Game.*—This is played in somewhat a similar way. The pupils write the names of distinguished individuals on cards with their own names, and then put them in a box. "Sides" are chosen, and then a card is drawn from the box by each, and the first one of a side tells something about the name on his card; then the first of the other side follows; when one can say nothing he sits down. Of course, there should be a biographical dictionary in the room. By this method a great deal can be learned about individuals that might not otherwise be obtained. I give a few names that were in a game lately: Southey, Captain Smith, Smeaton, Prudhomme, Livy, Durer, Berzelius, Heyne, Amos Lawrence, Andrew Jackson, Thomas Paine, Tarquin, Wellington.

4. *Quotations.*— The teacher may give a quotation and then name a pupil; the pupil named must give one and name some one else, and so the quoting and naming goes on. Some of these may be long, some short, some grave, some gay. The interspersing of comical ones with those of a serious kind will produce a sensation. This game is used at evening parties, and may be very improving as well as entertaining.

Another way of using quotations is as follows: A name is drawn from a box, and this pupil takes the chair, and gives a quotation, as:

"Observed of all observers."

Another rises and says:

"O, what a deal of scorn looks beautiful
In the contempt and anger of his lip."

"Cassio, I love thee," etc.

"He was a man, take him for all and all," etc.

"Hear you this Triton of the minnows?"

"He wears the rose of youth," etc.

"Oh what a noble mind is here," etc.

"Speak to him, ladies, see," etc.

"Your name is great in mouths," etc.

These may be made very amusing.

5. *Spelling Down.*—This is a well-known diversion, and need not be described here. It always affords pleasure, and may be made profitable.

6. *Anecdotes, Stories, Tales, etc.*—The teacher may tell a "story," or the pupils may select some one of their own number. There are some that have unusual powers of description. The teacher should not force himself upon the pupils, nor, if called on, be long-

winded, nor attempt to weave in a moral. Usually, I refused if asked, because I desire the pupils to learn to amuse themselves.

7. *Conundrums, etc.*—A good deal of sport may be created by asking for an original conundrum ; if this cannot be had, then for a really good one invented by some one else. There are pupils who will treasure up the smart sayings of witty people for such occasions, if they think they will be called on to repeat them.

8. *Riddles.*—There are some beautiful riddles ; that on the letter H, for example, long attributed to Lord Byron, and those by Canning. There are pupils who invent riddles and enigmas, and who will produce them if encouraged.

9. *Funny Sayings.*—The newspapers devote a column to these generally, and a few really good ones may be permitted. The pupils should be taught to distinguish between wit and its counterfeit. There are humorous things, and we are made to appreciate them, and it will not lower the estimate the pupils have of their teacher if he is known to laugh at the humorous things of life.

10. *Photographs.*—It is the custom of some teachers to collect a set of views of the most distinguished people or of the most remarkable places, and to exhibit these to the pupils at stated intervals. There is an apparatus which we have used with good effect, which throws a photograph on a screen, but that can only be used after some preparation, such as darkening of the room. The plans proposed must be such as can be readily and quickly extemporized. A teacher may show a photograph of Queen Victoria, for example, and as it passes around give some facts and incidents of her life. So of Niagara Falls. This amusement deserves very thoughtful consideration.

11. *A Museum.*—A collection of curiosities belongs to the schoolroom by inherent right. A case should be constructed, to be opened on special occasions. A collection of Indian curiosities is always interesting, such as arrowheads, tomahawks, etc. By exchanging with other schools a very respectable museum may be made. To rest the school exhibit some new contribution, tell who gave it, and any incident connected with its history.

12. *Experiments.*—The teacher may have the materials for some experiments at hand, and with these he can easily attract the attention. Quinine bottles, tobacco pipes, and a few test tubes are easily obtained ; a spirit lamp is needed. Among the experiments may be enumerated—making of hydrogen, bleaching, ignition of phosphorus, making of carbonic acid, testing for starch, making a lead tree. The solar spectrum produced with a prism, cohesion with lead surfaces, etc., etc., always interest. I have a list of over 600 experiments that have been performed with apparatus not costing over $30. One of 280 experiments when the apparatus did not cost over $5. A whole chapter could be written on this subject.

13. *Dialogues.*—These may be of a comical kind ; they should be short and need no fitting up. My custom has been to select one, and let two boys or girls learn it, keeping the matter entirely unknown to the rest. At the time I wish some enlivenment I call for volunteers, and the dialogue is brought out.

14. *Charades.*—The same remarks apply to this as to Dialogues. The Charade may be in pantomime or spoken. Sometimes there are pupils who can originate a charade on the spot. Sometimes an historical character is selected.

15. *Music.*—This is the usual resource for weariness, and it always yields pleasure. It may be varied, as the boys singing one verse, and the girls another, etc. Pieces with a ringing chorus are always popular. I had one arranged with a drum chorus which brought many parents to the school. In addition to the school songs new pieces should be learned, pieces up to "the times." It is a custom in some schools to have music at frequent intervals during the day. As classes go and come, let the teacher start a simple melody; it will conceal the noise, and it will give every one an opportunity to utter himself, somewhat, at least.

16. *Pupils Teaching.*—A teacher will find it will break up the monotony to let the pupils ask the questions, etc. They can ring the bells, they can attend to the order. This serves many purposes. It gives the pupils an interest they would not otherwise feel ; it serves to familiarize them with the subject that is taught, and it diverts the rest. If for no other reason than the last it may be adopted.

The above is but a part of the means by which the pupils may have their flagging interest stimulated. The great thing to be remembered is that the diversion must not be substituted for the regular work of the school. It must be short, too, and it should be well performed. It may be supposed that "the minds of the pupils will be drawn away from their books ;" this is the usual objection ; but it is not a valid objection. For it is supposed that their eyes are not on their books for weariness. It is now proposed to refresh and amuse, and then attack the studies with more ardor than ever. Pupils can accustom themselves to turn from diversion to study, especially if most of the diversions are related, as the above are, to the school work. And it will be found that the refreshed mind can study with new vigor and profit.—*New York School Journal.*

UNIVERSITY EDUCATION FOR WOMEN.

Our readers will be interested by reading the following extracts from some of the leading English papers on the subject of University education for women.

The following have been urged as reasons why the University of Cambridge should be one of the leading centres of female education :—

1. Because no line can be drawn separating main subjects of study or whole branches of learning into those suitable for men and unsuitable for women, or *vice versâ.* No true classification of human knowledge will admit of the distinction, "Propria quæ maribus tribuunter, mascula dicas."

2. Because the University as a chief inheritor and transmitter of learning from generation to generation has no right to dissociate itself from any great movement connected with the advancement of learning. The participation of women in the general, and particularly in the higher, studies of their time must be a great fact and factor in the future of education.

3. Because whatever educational resources may be found elsewhere, those of Cambridge and Oxford are peculiar ; and though as long as there was no public demand for these resources except from male students they were properly applied only to male education, now that a demand has sprung up and persistently declared itself on the part of the other sex, the University will incur the reproach of inhospitable partiality if it bars its doors, like a monastery, to female applicants for admission.

4. Because one of the legitimate wants and aspirations of the University—leisure for continued study and research—is likely to be promoted by increasing the amount of remunerative educational work done in the University. The more work, the more workers, and the more remuneration ; and out of workers, and earnings, the legitimate and sure outcome will be leisure for the worthiest work and workers.

5. Because the education of women in England must, from irresistible national feelings and convictions, be religious and Christian ; and if female education is centred in the University, a stimulus will be given to the best religious influences in study and life ; and from these the English universities have never for any long period been dissociated.

6. Because any mischievous consequences that might be feared, whether to the University or to the students, by the admission of women can be guarded against by suitable regulations, and still more by responsible authorities ; whereas the diversion of the interests and influences that are gathering round the question of women's education from the University to other centres would be

an irretrievable step, isolating the University for the future from a movement of great force and promise.

Commenting on these arguments, the *Times* writes as follows:—The grounds for seeking the certificate of a particular rank by the side of the Tripos lists apply indisputably to a rank within them. If that be yielded, as yielded in time it will be, the victors will not be slow to brand with mercenary selfishness the men who monopolise scholarships and fellowships, the recognized prizes for honors and retainers for research. When the position is finally made consistent by the conquest of all the concessions which it can be proved to involve, there may still, in the second place, arise a doubt whether the University, the country, or the feminine sex be manifestly the better for the change. Undergraduates preparing for the Tripos are so many intellectual athletes in training. The learning they acquire may be as practical as geometry, or as aimless as the art of Greek iambics. In either case, not the knowledge gained is the object, but its effect in equipping the recipient for future competitions in the world outside. It is not self-evident that the method in operation is for the young men to whom it is applied the best adapted for its purpose; yet less manifest is it that women will benefit by turning for three years into intellectual athletes like their brothers. For men, the University course may commonly be regarded as only the preliminary to professional life, a date from which the real education of life is to be reckoned; for women who are to marry and govern households, it would ordinarily be the educational end and terminus. If merchants, lawyers and physicians profit by having graduated as wranglers or classical first-class men, it must be granted that women who are to be merchants, lawyers, and physicians, might profit equally. The utility, however, has been questioned for professional and business men; and of professional and business women the number must always be small. When the elder Universities have so amended their ways as to supply an education wholesome and bracing for their entire communities, instead of an ordeal which chiefly proves that the few who can undergo it without mental or physical harm would have done as well without it, the admittance of female undergraduates may be an unalloyed advantage to themselves and to the country. At present, were the point fresh and unprejudiced, we should incline to deprecate the privilege as a temptation to dance on an intellectual tight-rope, very seductive to young ladies who feel the power to succeed in the performance, but of equivocal use in itself. But, in fact, the point was ruled ten years ago. Cambridge, in conniving at its public examiners examining Girton and Newnham students precisely as if they were Trinity or Johnian scholars, gave in spirit what is now demanded. It seems ungenerous, and not very rational, for a university to let its authorities proclaim a man in the Senate House eighth wrangler, and inform Girton college that the real eighth wrangler was a woman. Even a country clerical passman would not venture to withdraw the existing license; all that remains is for the Senate to ratify with a good grace the principle upon which its officials have long and openly been acting.

FROM THE *Standard*.

Whether harm can be done by the admission of women to the universities is a point now being tested by actual experiment. It is not the mere award of honors that can do either good or evil. It is what is called taking woman out of her proper sphere, unsexing her, demoralising her, and what not, which is what the opponents of "advanced young ladyhood" profess to be afraid of. But all these dreadful results will certainly not be brought about by simply calling a woman a wrangler. It is the previous process, the training, the diversion of her thoughts into entirely new channels, her introduction into a society hitherto reserved exclusively for men, and the intermingling of the two sexes at a susceptible period of life, without the safeguards which surround a young girl in her own home, and which it is impossible for any college to supply, that constitutes the real danger, if danger there be, in the admission of women to these coveted distinctions. From this danger, however, the authorities have not recoiled. Young ladies are now residing at, or rather near, Cambridge in a college of their own, pursuing the same studies as the undergraduates by whom they are surrounded, meeting them in their daily walks, mixing, we presume, in the society of the place, and already exposed to the only real risk which the system can be said to offer. If the study of science is likely to make girls too masculine, or to unfit them for the duties they may hereafter be called on to perform; if residence in a university is fraught with any perils of a different description—why is Girton College permitted to exist at all? Assuming the above-mentioned dangers to be purely imaginary, the mischief with which the grant of honors is supposed to be fraught must be even still more fanciful If the influences of university life and the effects of a masculine life have been perfectly innocuous, it seems idle to object to anything so purely formal as recognition of proficiency. One might as well object to the winner of a race being allowed to take the prize, after he had undergone all the training and all the physical exertion necessary to success. It is these last that constitute the danger of athletic pursuits, not the cup or the belt, or the sculls which reward the victor. And so with academic contests. It is not the laurels that can produce any effect, either for good or for evil, but the intellectual discipline and the course of life which precedes the winning of them. If a girl is none the worse for the conditions under which she has contended, she will be none the worse for being allowed to wear the badge of her success.

FROM THE *Morning Post*.

The point is not whether a girl might not become a senior wrangler at Cambridge, but whether it would be in the interest of young women generally to invite them to devote immense study with the object of gaining such a prize. Men who go in for honors and fail to obtain them are not only none the worse for the effort, but they leave their universities and devote themselves to their several vocations in life possessed of a knowledge which, if not in all cases practically useful to them, at all events saves them from the danger, otherwise so frequently incurred, of casting discredit on their *Alma Mater*. The knowledge they have acquired is a source of real pleasure to them during their life. But we may well doubt if to any woman, unless her life be devoted to perpetual spinsterhood, there would be any gratification in the consciousness that she had entered for the Tripos and failed. And even in the remote contingency of success, we are still tempted to inquire, *cui bono?* For our part, we believe that even if all barriers were thrown down, there are very few young women indeed who feel the slightest ambition, much less possess the ability, to obtain university honors. Their hopes, their aspirations, their dreams, take a different direction. Not because they are intellectually inferior to men, but because they select, and, as we think, wisely select, other fields in which to conquer. Unless a woman in the very beginning of womanhood is prepared to turn her back on all that her sex holds dear, and to acquire a reputation which is more likely to repel than to attract, we fail to understand why she should be anxious to label herself a blue-stocking. But so long as there are girls with these eccentric tastes, they are entitled to gratify them, and by such the vote given by the Cambridge Senate recently will be regarded as a real boon.

UNIVERSITY OF CAMBRIDGE.

TEACHERS' TRAINING CERTIFICATES.

EXAMINATION PAPERS.

THE THEORY OF EDUCATION.

(Three hours allowed for each paper.)

1. What different views of Mind are implied in the words "Education" and "Instruction" respectively? In what sense may we speak of the Mind as having Faculties?

2. Perception has been called "*Presentative-Representative* Cognition." Explain this by analysing your perception of the Table at which you are writing. (In the analysis, bring out carefully the whole part played by Muscular Activity.)

3. What do you understand by "Object-Lessons?" What is their psychological reason, and under what conditions may they be made effective?

4. State the laws of Contiguity and Similarity. Show how Association by Similarity is implied in the recall of any train of images by Contiguous Association.

5. Analyse the aptitudes for Language and for Natural Science respectively.

6. How would you set about proving to a class of children that they will all be dead a hundred years hence? Bring out in your answer the precise difference between Inductive and Deductive Reasoning.

7. What do you understand by Instinct, and what is its range in man? Explain how it comes to pass that we can say of any act, "I did it mechanically."

8. How is mental acquisition promoted by teaching a number of children together?

9. What is to be said for or against the "Discipline of Consequences" as applied to the young?

THE PRACTICE OF EDUCATION.

1. Describe in detail the dimensions, structure, and furniture appropriate to a well-equipped Secondary School for 200 scholars.

2. What main principles have to be kept in view in framing a Time-Table and in distributing the work of Assistants? Given a school of 100 scholars, of ages varying from nine to seventeen, how many classes would you form, and how would you divide the work of a week?

3. In what subjects of instruction can you most safely rely on book work; and in what others is oral teaching most needful and efficacious? Give reasons for your answer.

4. School studies are sometimes divided into the "formative" and the "real." Explain this classification in detail, and show generally what proportion of importance you would attribute to each class of subjects (1) in the whole course and (2) in the work of a given day.

5. In what order would you teach the facts of geography? What position among other studies do you assign to this subject in relation (1) to the mental training it may afford, and (2) to its practical usefulness?

6. Discuss the use which should be made of home and evening lessons in connection with school work. Give your reasons for preferring that they should be either (1) supplementary to the class-teaching of the previous day or (2) preparatory to that of the following day.

7. To what extent do you think it useful or desirable to teach the principles or reasons of the rules of Arithmetic and of Algebra to beginners? Give the reasons, if any, for requiring some problems to be solved empirically, by the use of rules, before these rules are thoroughly understood.

8. Explain fully the method of registration both for attendance and progress which you think it best to adopt. Say also in what form records of this kind should be communicated to parents.

9. Give some rules for the skilful and effective use of oral questioning. Explain also in what circumstances, and for what reasons, written questions and answers are of special value.

10. When is it expedient and when is it inexpedient to set the exact words of a book to be learned by heart? Give your reasons.

11. What is meant by the "Crude-form" system of teaching Latin? Discuss its advantages and disadvantages.

12. Describe in detail the structure and contents of either a physical or a chemical laboratory for a higher school. Say also to what extent you think it wise or practicable to enlist the services of the scholars themselves in preparing apparatus or furnishing illustrations.

HISTORY OF EDUCATION FROM THE REVIVAL OF LEARNING.

(*Special Subjects: Locke and Arnold.*)

1. What are the chief recommendations Luther gives the Town Councillors of Germany in his celebrated "Letter" of 1524?

2. "*Savior par cœur n'est pas savior*" (knowing by heart is not knowing). From the principles laid down in the rest of the essay show what Montaigne meant by these words.

3. To what distinctive features would you attribute the success of the Jesuit schools for boys in the 16th and 17th centuries?

4. Take any one *English* writer on education before 1642, and mention the chief reforms recommended by him.

5. What was the *Orgis Pictus* of Comenius? What objects did he seek to secure by means of it?

6. Locke has been said to hold "utilitarian" views in education. What is meant by this? How far is it true?

7. What is Locke's advice about studying "the Natures and Aptitudes of children?" Compare his advice with that of some writer before his time, and of some writer since his time.

8. Contrast a boy of 12 years old according to Rousseau's ideal and according to the ideal of the schoolmasters of his time.

9. What did Pestalozzi do at Stanz? What were the main lessons he learnt from his experience there?

10. State some of Jacotot's aphorisms.

11. What are the special advantages Froebel sought to gain for children by means of the Kindergarten?

12. Mention some points of agreement and also of disagreement which you see when you compare Locke's theory of education with Arnold's.

13. What are Arnold's views on corporal punishment? What was his practice?

14. On what ground did Arnold advocate introducing natural-science teaching into the school course?

15 In speaking of the education of his own daughter, what does Arnold say about the intellectual education of girls?

ADVANCED QUESTIONS.

Not more than one question to be answered out of each group.

I.

1. "Education should always be according to Nature." Which reformers have especially insisted on this? Explain in each case what you understand to be meant by "Nature."

2. When Arnold was a candidate for Rugby, one of his testimonials said that "if appointed he would change the face of education all through the public schools of England." What changes that have since taken place should you connect with Arnold's influence?

II.

1. Distinguish the notions of development and growth; and show upon what grounds and with what effect they are applicable to mind.

2. What reason is there, if any, for distinguishing various kinds of memory? Suppose a man has "no memory for places," might he cultivate one, and how?

III.

1. What is meant by "synthesis" and "analysis" in their relation to modes of teaching? Illustrate your answer, and say in what cases, if any, the logical order in which truths and facts are related is not in the order in which they can be most effectually taught.

2. Write an essay on rewards and punishments, and the principles on which they should be administered.

NORTH WELLINGTON PROMOTION EXAMINATION.

APRIL, 1881.

Third Class—Promotion to Fourth.

Reading.

Third Book, page 296, from "When I am" to "they had died."

Value 30 marks.

Spelling

ON PAPER FROM DICTATION.

Third Reader, page 244, from "An instant" to "executed." To be written at once on paper, and no copy made; capitals and periods to count.

Value 22 marks, with 2 marks off for each error.

Writing.

Third Reader, page 225, from "O Pilot" to "thou mayst be." Two lines of the ten digits.

Value 30 marks.

Arithmetic.

1. Find the sum of LXXXV times MMCDVIII and 68 times 4103.

2. Multiply 17943 by 5079, and divide 348753392 by 688.

3. A man bought 500 acres of land for the sum of $17876. He afterwards sold it in lots as follows: 127 acres at $47; 212 acres at $95; and the remainder at $37; how much did he gain by his bargain?

4. Write out the following tables: "Avoirdupois Weight," "Long Measure," "Square Measure," "Measure of Time;" and define quotient, dividend, multiplicand, product and addend.

5. How many bales of cloth, each containing 40 pieces, and each piece containing 36 yards, worth $3 a yard, must be given for 120 government bonds worth $108 each?

6. Find the L. C. M of 9, 11, 18, 15, 21, 22, 42, 36 and 60.

7. Reduce 14ac. 3ro. 11sq. per. 6sq. feet and 108 sq. in. to square inches.

8 A man bought a horse and carriage; the horse cost $\frac{3}{5}$ as much as the carriage and both together cost $640; what was the cost of the horse?

9. A man bequeathed $37000 to his family; he gave $\frac{1}{4}$ to his wife, $\frac{1}{2}$ to his son, and divided the rest equally among 5 daughters; how much did each daughter receive?

10. Add together three dozen, ten score, and a gross; and take the sum from 10,000.

Value—100 marks.—10 each.

Geography.

1. Bound Wellington, and name all the municipalities in the County.

2. Name and give the positions of the nine cities in Ontario.

3. Name all the Canadian rivers flowing into Lake Ontario.

4. What are the boundaries, principal rivers, and towns of Ontario.

5. Give the divisions of British North America, with their capitals.

6. Give the states of the Union bordering on the Atlantic.

7. Draw a map of South America, putting in, with names, the oceans, rivers, countries, capes, islands and mountains.

8. What and where are Barrie, Wolfe, Chaleur, Three Rivers, Fundy, Quinte, Stratford, Manitoulin and Walkerton?

Value—72 marks.—9 each.

Grammar.

1. Separate into noun part and verb part:

(a) Shall we try to catch it?

(b) Far from his native land, stripped of all resources, he halted at a large village.

(c) Few and short were the prayers we said.

(d) Jump! I'll catch you.

(e) In my elation at my success so far, I had explained my object to my sister.

(f) I called my little brother to join us.

2. Tell the parts of speech in the sentence—page 190, III Reader—commencing "There is already" and ending with "May 1843." Write the words in columns, and opposite each word give the proper part of speech.

3. Define Case, Person, Gender, Adverb, Conjunction, and Interjection.

4. Give the plural of church, fox, glass, button, wife, woman, penny, goose, potato, and wolf.

5. Give the Feminine gender of the following nouns: Bridegroom, lad, prince, boy, emperor, and negro.

Value 100 marks.—3 for each part of 1; 2, 1 for each word; 3, 12; 4, 20; 5, 12.

History

1. Who discovered Canada? How many voyages did he make? Mention his principal discoveries in each.

2. When and by whom was Quebec founded? What discoveries were made by him in his expeditions against the Indians?

3. When was Quebec first taken by the English? How long did they hold it? Why did they withdraw from it?

4. Give, as fully as you can, the particulars of the taking of Quebec by General Wolfe.

Value 72 marks.—18 each.

Composition

1. "Manual Labor." Third Book, page 166. (Teachers are to read the lesson to the candidates, who will thereafter write its substance as much as possible in their own words.)

2. Correct the following sentences:

(a) This book lays on the table.

(b) Will you learn me my lesson?

(c) The boy's waistcoat is too large.

(d) He told him and I.

3. Combine the following statements into one sentence:—

The girl wrote a letter. She was a good girl. She wrote the letter to her mother. It was a long letter. She wrote it in the morning. She wrote it on her mother's birthday.

Value 72 marks.—1, 48; 2, 3 for each part; 3, 12.

Literature.

OPEN BOOKS AT PAGE 239, AND ANSWER IN WRITING:—

1. Why is the 13th of October, 1812, a day to be remembered in Canada?

2. Of what would "their portable property" consist.

3. What is the difference between regulars and volunteers?

4. What is meant by "tattoo?" and what little garrison is referred to?

5. What have sentinels to do? What opposition was made to the landing of the Americans?

6. Give some account of General Brock.

7. Explain the meaning of infuriated, sharpshooters, intrepid conduct, reinforcement, enemy, militia, foreign aggression, point of the bayonet, and despised slaves.

8. Name the American Commander? Who gained the victory?

Value 72 marks.—1, 7; 2, 7; 3, 7; 4, 8; 5, 8; 6, 9; 7, 18; 8, 8.

—o—

Fourth Class Reading—Promotion to Fifth.

Reading.

Fourth Reader, page 132 from "They were all satisfied" to "grow wider apart."

Value 30 marks.

Writing.

To be judged from Copy Books.

Value—20 marks.

Spelling.

Page 92, from "No river can exhibit" to "romantic halo."

Value—22 marks—2 off for every misspelled word.

Arithmetic.

1. Taking a year as 365 days 6 hours, how many years are there in ten million minutes?

2. Divide 69 miles 7 fur. 39 po. 2 feet by 492.

3. Add together $\frac{1}{2}$, $\frac{2}{3}$, $\frac{3}{4}$, $\frac{4}{5}$, $\frac{5}{6}$, $\frac{6}{7}$, and subtract the result from $100\frac{1}{100}$.

4. What would be the price of $\frac{5}{8}$ of $\frac{6}{7}$ of $\frac{7}{9}$ of a ship, if $\frac{1}{3}$ of $\frac{3}{7}$ of $\frac{2}{11}$ of it cost $68000.

5. If $\frac{4}{5}$ of a bushel of peaches cost $\$\frac{12}{25}$, what part of a bushel may be bought for $\$\frac{7}{20}$?

6. What is the amount of $1296 for 6 years 9 months at $8\frac{1}{2}$ per cent ?

7. A lady wishes to carpet a floor 15 feet 9 in. wide and 22 ft. 6 in. long with carpeting $\frac{3}{4}$ yard wide ; if the carpeting is worth $2.50 per yd. how much will it cost ?

8. A pile of wood is $3\frac{1}{2}$ feet wide, $5\frac{1}{4}$ feet high, and 147 feet long ; how many cords does it contain ?

9. How many turns does a hoop 2 yds. 16 in. in circumference make in a quarter of a mile ?

10. A table 5 feet square is covered with cents placed in rows ; find the value of the cents, each cent being 1 inch in diameter, and none touching more than four others.

Value—100 marks—10 each.

Grammar.

1. Analyze :

(a) The buccaneers now *rapidly increased* in strength, *daring*, and numbers.

(b) The Spaniards held *them* in such terror that they *usually surendered* on *coming* to close quarters.

(c) *We* marched *them* into the woods *off* the road, and *having used* them *as* Regulators *were wont to use* such *delinquents*, we set fire to the cabin, *gave* the skins and *implements* to the young *Indian* warrior, and *proceeded*, well pleased, *towards* the *settlement*.

2. Parse the italicised words in the above sentences.

3. Give the plural of grouse, heathen, die, staff, fish, radius, bandit, axis, knight-templar, fruit-tree, brother-in-law.

4. What are the past tense and past participle of bite, chide, forbear, gild, sit, speed, stare, and take.

5. What is an Infinitive ? How many infinitives are there, and what are they called ?

6. Correct, giving reasons, any errors in syntax in the following sentences :

(a) When I wrote that letter I had not the pleasure of hearing his sentiments.

(b) The following facts may or have been adduced as reasons.

Value 100 marks—1, 15 ; 2, 40 ; 3, 11; 4, 16 ; 5, 12 ; 6, 6.

Geography.

1 Define water-shed, plateau, table-land, tropic, meridian and prairie.

2. Give the boundaries of Asia and Africa.

3. What and where are Ebro, Frio, Riga, Spartivento, Tigris, Taranto, Natchez, Skeena, Aden, Saluen, Notre Dame, Senegal, Ortegal, Baba, St. Maurice, stating in the case of rivers their direction and where they empty.

4. Over what railroads would you travel, and through what places would you pass in going from Mt. Forest (a) to Ottawa, (b) to St. Catharines.

5. Draw a small map of Australia, showing its outline, rivers and mountains.

6. Give the position and extent of the East Indies, with its political divisions, and describe the physical features of British India.

Value 100 marks.—1, 12 ; 2, 12 ; 3, 18 ; 4, 18 ; 5, 18 ; 6, 22.

Composition.

1. Write one sentence in answer to each question :—

(a) How is paper made ?

(b) Is snow of any use to the farmer ?

(c) What is an earthquake ?

2. Re-write this passage, with proper spelling, punctuation, and capitals where they should be :—

The europeans were hardly less amazed at the seen now before them every herb and shrub and tree was diferent from those which florished in europe the soil seemed to be rich but bore few marks of culltivation the climmate even to the spaniards felt warm and extremely delightful.

3. Write a composition on the "Return of Spring."

4. What is the difference in meaning between

Wales,	the noun,	and wails,	the verb
wave,	"	and wave,	"
waste,	"	and waste,	"
stare,	"	and stare,	"
run,	"	and run	"
peer,	"	and peer	"

Value 72 marks—2 for each part of 1; 2, 24 ; 3, 30 ; 4, 12.

History.

1. Why was the Norman rule hated by the Saxons ?

2. What Saxon kings were most successful in resisting the Danes ?

3. What happened in 1138, 1172, 1215, 1314, 1356, 1485, 1513 ?

4. What do you know of the Plantagenet period ?

5. State *when*, *where*, and *how* each of the Norman sovereigns died ?

6. Describe the conquest of Wales by Edward I.

7. Sketch the character of Wolsey.

8. What was ship-money ? Who tested the right of the king to levy ship-money in the courts of law ?

9. What was the Commonwealth ?

Value 72 marks—8 each.

Literature.

OPEN BOOKS AT PAGE NINETY-THREE, BUT ALL NOTES, ETC., ARE TO BE REMOVED BY THE TEACHER.

1. What city is built on the old site of Hochelaga? Who was the founder of this city and how did it receive its name?

2. How did the natives receive the name of Indians? What Indian tribes were found in the Province of Quebec in Cartier's time?

3. What is meant by "poles and pikes," "stout hearts of their crews," "his ascent of the river was prosperous, abundance of rivers," "the metropolis of the surrounding country," "the name is now lost," "in full dress," and "they were devoted to husbandry and fishing."

5. Give the meaning of *discretion*, *palisades*, *precaution*, *gospel*, *savage*, and *civilized*.

Value 72 marks—1, 12 ; 2, 12 ; 3, 24; 4, 12 ; 5, 12.

NEVER TOO LATE TO LEARN.

Socrates, at an extreme old age, learned to play on musical instruments.

Cato, at eighty years of age, learned the Greek language.

Plutarch, when between seventy and eighty, began the study of Latin.

Sir Henry Spellman neglected the sciences in his youth, but commenced the study of them when he was between fifty and

sixty years of age. After this time he became a most learned antiquarian and lawyer.

Dr. Johnson applied himself to the Dutch language but a few years before his death.

Ludovico Lonaldesco, at the great age of one hundred and fifteen, wrote the memoirs of his own times.

Franklin did not fully commence his philosophical pursuits till he had reached his fiftieth year.

Dryden, in his sixty-eighth year, commenced the translation of the Iliad, his most pleasing production.

Ogilby, the translator of Homer and Virgil, was unacquainted with Latin and Greek until his fiftieth year.

Dr. Carey acquired nearly all the dialects of India after he was well advanced in life, and his translations of the Bible are still in use.

We could go on and cite thousands of examples of men who commenced a new study, either for a livelihood or amusement, at an advanced age. But every one familiar with the biography of distinguished men will recollect individual cases enough to convince him that none but the sick and indolent will ever say, "I am too old to learn."

Notes and News.

ONTARIO.

A handsome gold medal has been presented to the Petersville Public School by Squire Peters, to be given to the most proficient scholar. Squire Peters has set a good example of generous interest in education.

We are glad to see that it is becoming a common practice to publish the results of the monthly examinations in the local papers.

The St. Catharines Collegiate Institute is about to issue a monthly magazine. We wish it success, if its managers avoid the gross errors made by the Hamilton School Magazine.

There is a strong feeling of opposition against High Schools doing Public School work. A discussion of this subject, conducted on both sides with good temper and intelligence, has taken place at Kingston between Mr. Knight, master of the High School, and Mr. Massey, Chairman of the Public School Board.

The expenditure on the schools of South Oxford in 1880 was $5,534.

At a late meeting of the shareholders of the Ontario Ladies' College a reduction of the debt was announced to the amount of $2,000.

Mr. D. C. Munro, who has had charge of the school Section of Downie, has been compelled by ill-health to resign. He has been presented with a valuable teacher's bible and an album. He is succeeded by Miss Oliver.

There are 227 pupils at the Deaf and Dumb Institute, Belleville.

For the position of teacher in St. Mary's Public School, vacant by Miss A. C. Belfour's resignation, there were twenty-three applicants—nine male, fourteen female. Miss L. Campbell of Perth has been appointed, of whose merits the *Beacon* speaks in high terms.

Mr. E. A. Stevens, who was appointed principal of the Renfrew Model School in July last, has exhibited unflagging interest and marked zeal in adding to the attractiveness of his school by ornamenting the walls of the several departments of the Institution with chromos, mottoes, and other decorations of a similar nature. These embellishments mark a new era in the annals of the school. A powerful impetus has been added to the interest taken in school matters both by pupils and proprietors, who have shown their warm appreciation of Mr. Stevens' energy, zeal, and efficiency by swelling the receipts of a concert given by him for the purpose of raising funds to complete the decorations of the building to $44.50, all of which is to be devoted to that purpose, and the preparation of a flower garden for the girls in the spring. We consider the school in a remarkably healthy and really flourishing condition, and would merely say to all the other teachers of this province, "go thou and do likewise."

NOVA SCOTIA.

The second annual meeting of the Annapolis County Teachers' Association was held at Bridgetown on the 28th and 29th ult. On the same days the Cumberland County Association met at Amherst. Next month's notes will furnish reports of both meetings.

The College Sustentation Bill, referred to and quoted last month, after receiving one or two minor amendments in committee, passed the House of Assembly by a virtually unanimous vote. In the Legislative Council, however, it encountered keen opposition and criticism, and was thrown out by a vote of 11 to 10.

The University of Halifax, though saved from destruction by the defeat of the bill above referred to, has been seriously crippled by the passage of a measure subsequently introduced by the Government, the practical effect of which is to leave the University without the funds necessary for carrying on its operations.

W. D. Harrington, Esq., M.P.P., gave notice in the Legislature of his intention to introduce next session an amendment to the Educational Statutes providing for compulsory school attendance.

The vote for the support of education in the Provincial estimates is $200,000. The Provincial Secretary introduced a resolution providing for the appropriation out of that sum of a grant of $600 for the support of a County Academy in each of the following counties: Halifax, Hants, Kings and Antigonish.

Roderick McKay, Esq., formerly Principal of the New Glasgow High School, has been appointed to the recently-established English Professorship in Pictou Academy, which has now a Faculty composed of three University graduates.

MANITOBA.

FOURTH CONVENTION OF TEACHERS' ASSOCIATION, HELD IN WINNIPEG.

Rev. W. C. Pinkham, Chief Superintendent of Education, delivered the

PRESIDENT'S ADDRESS.

He began by expressing his sense of the privilege and honor of occupying the position of presiding officer of the association, and the pleasure which it gave himself and the city teachers as well, he felt sure he might add, to see so many of the teachers from the country present at the meeting, and he had no doubt that the number would be still further increased at the subsequent sessions. He was exceedingly anxious that the members should enter heartily upon the work which was before them. It seemed to him that the only way to do this was first of all by giving the business likely to come before the meeting careful consideration, so that they might come prepared to take full part by reading papers, if such were assigned, and by participating in the discussions, and by suggesting such business as might lead to the adoption of resolutions. Everything depended upon the value which they as individuals placed upon the meeting of the association. If they looked upon it merely as an opportunity of spending a pleasant hour socially, forgetting that they had duties to perform, they would lose much of the good which would otherwise result. He did not at all overlook the social advantages, but he maintained that they would receive more good by coming prepared each to do his part than would otherwise be possible. In the older Provinces, particularly in Ontario, where such associations had been longer at work, there was a large number of veterans who had had a great deal of experience in the work of education, but the members were in a sense beginners. He himself had had a longer experience here than the other members, having held his present position for nearly ten years; but as to the work of an association of this kind, he was as new to it as his hearers were. Hence there should be no timidity or feeling on the part of any that they did not wish to take the lead because they thought that others should do so. He hoped that all would, by throwing their energy and ability into the work, combine to make the meeting successful. He would now address a few words to them under three heads, which he would consider as among the elements of success in teaching. He did not mean to say that there were not a great many others, but he would like at present to emphasize these three. The first was that the teacher needed the principles and the character of the true Christian. He would without hesitation begin with this. Though he might, perhaps, be expected to say it from his office as a clergyman, yet if he were not a clergyman he would say it from what he knew about teachers and teaching. He did not think it possible for teachers to enter at all, as they ought to do, into the successful discharge of their duties unless they had the character of holiness, uprightness and godliness of life. He had found the CANADA SCHOOL JOURNAL very valuable, and it was becoming increasingly so. Among many papers in it containing most excellent suggestions, he had been struck with a short one in the number for the current month, under the head of "Elements of a Teacher from a Modern Aspect," by G. H. Burnett of New Brunswick. The speaker proceeded to read from the article, which treated of

the importance of a sympathetic, loving nature in the teacher, and of purity and nobility of character It described the truly moral teacher as carrying with him an atmosphere which could not but benefit those with whom he came in contact. He would not lose sight of other aspects of training of the mind. The mission of the teacher was not merely to impart a certain degree of information. He did not believe that his hearers stopped there, but if they were to do so, they would be making a serious mistake. They ought never to overlook the fact that the teacher had greater opportunities of influencing the lives and characters of children placed in his charge after a certain age than even the mother had. When children came to them they had passed the stage of being taught at their mother's knee, and unless the teachers remembered that they were dealing with those who had souls to be saved, characters to be formed, and influence to be exerted, they lost sight of the most important facts connected with their work. Neither the world, society, nor parents wanted the children simply to be be taught mechanically. Teachers should remember that those whom they were teaching had all the elements which constituted a human being; and that, above all, mere knowledge even of the things of every-day life, which make men successful from a worldly point of view, was the training of those committed to their charge to be honest, faithful, true, upright and God-fearing citizens, that they might fulfil their duties in this life in the way in which God meant them to be fulfilled, and hereafter enter into the rest which God had promised to those that love Him. The second point to which he would call attention was the need of study and general culture on the part of teachers. He had had a theory when he was himself a teacher, and he held it still, that teachers ought to consider that it was expected of them that they should not only know what they profess to teach, but be looked up to to a certain extent, and be respected in the localities in which they resided as people of culture who studied something more than the mere elements which they were required to teach. If they wanted to be respected as members of a profession from year to year exercising a greater influence in the world and receiving greater consideration, they must cultivate their minds. It was painful to meet with teachers who could barely pass an examination in the subjects upon which they had to write, while perhaps they could not write a merely ordinary letter without making mistakes in grammar or spelling, and while they could not go out and talk to the most intelligent men of their neighborhoods. He believed thoroughly in newspapers, and in people reading them. He was often astonished to find teachers writing to him for information which, if they had been reading the local papers, they would have acquired for themselves. In order that they might be able to enter intelligently into discussions of the general topics of the day, teachers should take the papers and read them. He emphasized this because he found that there was a want in this respect among the younger teachers. It would be useless to talk about teachers being slighted and about the people not being willing to pay them good salaries, unless they placed themselves thoroughly abreast of the intelligence of the times; for if they failed to do this they would inevitably be left behind. It ought to be taken for granted in these days of rapid thought and general culture, that teachers should be as well posted in general literature and current opinion as any persons with whom they met. He did not speak of science, classics or mathematics, but of the importance of possessing a general knowledge of subjects outside of what they had to teach. If he were addressing an assembly of clergymen he would say the same things. People did not want clergymen to be always talking of religious subjects, but they liked to have them know something about business matters and be able to express opinions upon subjects of general interest. Clergymen who were able to do this would find openings which would not otherwise present themselves, and the same was true of teachers. He would not say that they ought to be walking dictionaries, but they should possess such a degree of knowledge of such general subjects as cam· within their range that people could appeal to them for reliable information. The want of this knowledge would diminish their usefulness, no matter how successful they might be in the school-room. In the third place, he desired to inculcate the importance of industry. He believed with all his heart in hard work. He had been a worker all his life thus far, and he never wanted to be anything but a worker. Those who would make their mark in any profession in these days must be workers, and if teachers did not enter with all their hearts into the duties which they had to discharge, they would not be so successful as they would like to be. It was proper and laudable to have an ambition to get to the top of the ladder; but to accomplish this, teachers must lose no opportunity of making themselves thoroughly familiar with the work of their profession. They must establish a reputation for hard work, and a determination to persevere even in spite of opposition and discouragement. In conversation a few days ago with a gentleman in the city concerning teachers in this country and their prospects, he had expressed the opinion that there was a grand opening here for the members of this profession, but that it would be of no use for teachers in other parts of the world to come here expecting to succeed, unless they had the elements of success in them, and came prepared to face obstacles and take any position that offered itself, until those who had influence in filling the various positions in the country were ready to take them in hand and do for them what they could. Having come to this city in 1868, when it contained about 200 people, he ought not perhaps to advance his own opinion concerning the matter, but he would repeat what others had said who had come here during the last half-year, and what had been stated at public meetings in the city by men from the business centres of the Dominion and other parts of the world, that the average degree of intelligence in this country was greater than that found anywhere else. He believed that the observation was true and that it could be proved. Those who had come here had come with the laudable expectation of bettering their condition in life; and the very ambition which prompted them to come here showed that they had that in them which would help them to make their mark, and that they were superior to those who were content with their lot, and did not care to put themselves about to better their condition. First-class men and women were what was wanted as teachers in this country. He did not mean those who had first-class certificates, though he would be glad if all the teachers had them; but those who were first-class in principle, integrity, uprightness, sympathy, industry, perseverance and determination to do their duty, no matter where they were, in the sphere in which they were placed, with the belief that they were not merely serving human masters but the Lord Christ, who would reward every one when his work was done in this world, according to his deserts.

At the second session Mr. Corrigan moved, seconded by Mr. Hewett, "That a vote of thanks be tendered to the president for his able and instructive address to the members of this association during the opening session." Carried unanimously.

The president thanked the association warmly for their expression, and assured the members of the pleasure he took in discharging his duties as presiding officer.

Mr. Ferguson then read a paper on "The Teacher and his Stipend."

Teaching is the noblest of the professions. The military man may have added new territories to the empire, may have caused nations to hold their breath at the mere narration of his conquests; the statesman may have won well-deserved plaudits, and engraved his name deeply on a grateful nation's heart; the minister of the Word may by his eloquence turn many from the paths of error and sin to the straight path of virtue; but to none is given the opportunities of doing good that are placed in the way of the teacher. To him is given the seedling, as yet frail and undeveloped, and it is his privilege to nurture and train, till like the mighty oak, with its roots reaching out deeply into the soil, it is prepared to bid defiance to the storms of time and hold its proud head high in the air when others shall have fallen victims to the elements. Or perhaps, his work may be more properly likened to that of the sculptor; to him is given the unhewn ashler upon which he must exercise all his skill and ingenuity, till the unshapen mass shall become the perfection of the artist's skill. It is his to prepare men for the battle of life, to sow in virgin soil the elements which shall produce the future statesmen and men of power in the nation; it is his to make such impressions as shall prove for the weal or woe of the succeeding generations. What higher work can be allotted to man than thus to hew out men who shall be fitted for the exigencies of the times, and make the world better because they have lived? Compare for a moment the influence of such men as Napoleon, Wellington, Richelieu, or even the great Pitt, with such as Socrates, Froebel, Pestalozzi, Dr. Arnold, or Robert Raikes. Have not these latter wielded an influence purer, farther reaching, more for the well-being of mankind, than all the hosts of statesmen and warriors the world has ever produced? But while it is necessary to have teachers, it is also necessary that their stipends shall be sufficient to keep soul and body together; and it shall be the province of this paper to discuss some of the fallacies which have in the past proved detrimental to such a combination of the spiritual and temporal

elements of the teacher, and to point out how these may be remedied.

The public school teacher is no longer asked to teach for five dollars a month and board around, but I am not sure that there are not those in the profession who remember with not altogether unpleasant feelings the time when, as wandering minstrels, they went from house to house for their daily bread, rejoicing in the best the house could afford of buckwheat cakes and apple dumplings. He was the oracle of all wisdom, a sort of encyclopædia from which emanated all that was worth knowing in the little rustic world of which he was the centre. As Goldsmith says of him:

> "While words of learned length and thundering sound
> Amazed the gazing rustics ranged around,
> And still they gazed, and still the wonder grew
> That one small head should carry all he knew."

Teaching is not a showy profession. The artizan may, by his inventive skill, excite the admiration and gratitude of multitudes; the lawyer by one able forensic effort may make to himself a name, the physician by his skill bring back almost from the jaws of death some victim of disease, but the teacher must be content to labor on from year to year, knowing that his labors may be unrecognized and unappreciated. He must sow with care the good seed, anxiously nurture the young plantlet, and not be discouraged if his labors receive no other recognition than the kindly smile of those whose affection he has won by his untiring solicitude and the pittance which, too frequently, is meted out with a grudging hand. It has been so in the past and may be so for years to come. The duty of the hour for the teacher is by all lawful means to raise education in the estimation of the public, and when men begin to place something like a proper value on education, they will also estimate more properly the profession whose peculiar province it is to impart such education. As the teacher is to be a model for his class, his salary should be such as to draw the best talent into the profession.

But want of appreciation of education and of the proper position of the teacher are not the only reasons of low salaries. We can bring the matter nearer home. One of the most fruitful sources of this evil is the number of those who enter upon the sacred duties of the teacher with no adequate conception of its responsibilities, but who, finding themselves in *want of money*, having some book knowledge, and being too indolent to gain a living by honest manual labor, find in teaching the opportunity sought, and go to teaching till something more to their liking turns up. The public have not learned the difference between true teaching and hearing lessons. They imagine that the knowledge is all that is necessary, and are either too busy or too careless to give it any careful consideration. The result is that many a good shoemaker, cab driver or wood sawer is spoiled in the would-be pedagogue. Another species of these ephemeral teachers is that which uses the profession as a stepping stone to what they are pleased to consider one of the learned professions, in contradistinction to teaching. They are always careful to impress you with the idea that they are only teaching for the time, to get money to pursue some other course in life. They are too intellectual, have altogether too much brains to "waste their sweetness on the desert air." No, Providence intended them for better things. They will tell you of the stupidity of Jones' brats, they "can't beat anything into their heads;" but never for once imagine that it is their own pates that need the drubbing that perchance some light may fall upon their bedimmed and sluggish intellects. Young men and women having sufficient education to obtain the necessary certificates, and finding school authorities are not too particular about other qualifications, and wanting money, what more natural than that they should imagine they could teach? They may feel in their innermost souls that Providence never intended them as cobblers in that line, but it brings them the needed dollar, and why be too particular? To the males it is only for a year or two, to get money to pursue some other course; to the females it supplies the ribbons and ruffles, till matrimony shall cut short their pedagogical career for duties to which they are better fitted. The result is, a good workman's place is filled by a cobbler, at a much less price than one who has any correct conception of his responsibilities would work for. The aspirant to law or medicine conserves his energies for his own study, rises to all his ambition suggested, but in doing so rises upon a ruin more noble, even in the partial destruction he has helped to make, than that to which he aspired. Were it not that every such rising became one more heart-thrust at the noblest of professions, one more missile aiming, not intentionally it may be, but aiming just as surely at the breaking down of the true development of the youthful minds of the nation, we might admire the energy and ambition which characterize such a course. Good teachers are kept out of the schools, and the schools themselves must of necessity assume a lower standard. What would be thought of the young man who would enter upon the sacred duties of the ministry for a few years, that he might get money, and use the time to prepare for some other calling in life? And yet the same thing is being done with the sanction, aye, and the approval in some cases, of school authorities. This canker in the teaching profession, however, admits of a speedy cure. Let those who have chosen teaching as a life work, not because it will pay in a pecuniary point of view, but because they love the work, let these set their faces steadfastly against any such innovation; let the authorities place an effectual barrier to this class of individuals entering upon the duties of the profession by requiring a certificate showing that they have in some educational institute studied how to teach; let the would-be teacher be required to pass such an examination on methods of teaching, order, morals and discipline as will effectually prevent the ferule falling into unskilled hands. Then, when teaching has taken the rank of a profession in more than name, when the public begin to feel that to the teacher falls other responsibilities than flogging half a dozen urchins a day, making boys and girls "sit on nothing," till the sense of *anything* is well nigh gone, and drawing their salaries with a punctilious punctuality to which they are strangers on other occasions, will dawn a day that will find teaching what it ought to be professionally and financially.

Another evil which the teaching profession has to contend with is the want of proper supervision of its labor. The custom on this continent is largely the employment of the teacher by trustee boards or committees, who are chosen by a tithe of the electorate, not because of any particular fitness for the position, but in nine cases out of ten, especially in country districts, because worthier men would not be bothered with it. If perchance there is a man who is aspiring to public honors, and has made teaching the stepping stone by which he has risen to affluence as a lawyer, physician, merchant, grocer, patent medicine vendor or insurance agent, he is the individual of all others that shall receive their suffrages, and whose word shall be the authority by which they are governed. Among these, however, there will occasionally be found a person who discovered, after making an earnest effort to succeed, that teaching "was not in his line," and though he has chosen another profession more in harmony with his disposition, yet has common-sense enough to place something like a proper estimate upon the duties which teachers are called upon to perform; while, on the other hand, those who dishonestly used the profession as a means to an end, will regard a stipend of $300 or $400 a year as more than sufficient to recompense the teacher for his duties, for he will remember how he was able to cheat the school authorities, and thinks all teachers as dishonest as himself. Thus it is that schools are placed under the supervision of men who are no more capable of judging of the merits of good teaching than a cannibal of the South Sea Islands is of an English plum pudding. Men of other vocations in life, who work on salaries, have those to supervise their work who are capable of judging of the efficiency with which it is performed, but the teacher must be content to have the estimate of his work fixed by men who think that a visit or two in the year is quite sufficient to know how matters are going, and were they going altogether wrong would be ill capable of detecting it. Only the skilled workman can properly point out the defects of the novice; yet men frequently do not care to use the same common sense in the supervision of the education of their children that they exercise in making an ox-cart. In this improper supervision of the work done by the teacher lies the chief difficulty in the teacher's profession. Remove this, and all the others must, if the supervision is properly done, soon follow. Again, it is generally conceded nowadays that it is the duty of the state to provide for the elementary training of the youth. Now if it is the duty of the state to provide education, it is certainly the duty of the state to see that education is being properly imparted; if it is the duty of the state to provide educational facilities, and supervise the work of the teacher, it then becomes quite clear that no other authority is so well capable of fixing the stipend of the teacher. This may seem extremely radical, but the principle is involved in some of the best educational systems of Europe. The teacher is a civil officer to all intents and purposes, and should be treated as such, and not subjected at the close of each year to the annoyance of an indescribable uncertainty as to what new phase

the impecuniosity of his school board will take. He should feel certain of his salary being liberal, and being promptly paid, if he performs his duties faithfully and well. It may be that the people of this continent are too democratic to adopt as yet so complete a change from old usage, but it is my firm conviction that only upon such a basis will the teacher take his proper position among the professions and receive that compensation which the importance of his position demands.

I think I have now pointed out the principal reasons of the low salaries paid teachers. The first, that of want of appreciation on the part of the public, is rapidly dying out as people begin to see the importance of education; for the second, that of incompetent and unworthy men and women entering the profession, the teacher and licensing boards have the cure in their own hands; the third, that of improper supervision, etc., requires new legislation; but teachers can help on the work by advocating it on all proper occasions, and setting themselves steadily against any imposition on the true ethics of the profession.

Another fallacy with respect to teachers' salaries exists which must be overcome by the same patient advocacy—that is, the graduation of salaries according to the standing of the grade taught, or the number of members of the class in charge. The mechanic or professional man receives a salary according to the proficiency with which he does his work. It should be so with teachers: not the grade a man teaches, not the number of the pupils under his care, but the skill with which he performs his duties, should be the basis upon which his compensation should be adjudged.

Now, though there seems a somewhat poor prospect, there is no cause for despondency. No true teacher works solely for money. If there is not an innate love for the work—if there is not a genuine delight in the pursuance of his duties—if his soul is not in the work, he may rest assured that he has mistaken his proper vocation, and the sooner he seeks "pastures new" the better for the teaching profession and the better for himself.

"Let us, then, be up and doing,
With a heart for any fate,
Still achieving, still pursuing,
Learn to labor and to wait."

Mr. Adams moved a vote of thanks to the reader of the paper, at the same time requesting him to allow it to be printed.

Mr. McIntyre, in pursuance of the programme, put a class of five boys and eight girls through an interesting exercise in analysis and parsing.

Mr. Ferguson opened the discussion upon the exercise. He was strongly in favor of the method exemplified. He severely condemned the old method of teaching grammar by making the study consist mainly of the recitations as given in the book, losing sight of the real object, through which the study, while it ought to be most interesting, has become so dull that many pupils hated even the very name of grammar. He thought that it would, perhaps, be well to change the name to "Language lessons," or something else, to avoid the difficulties arising from the intense dislike which existed. He advocated the making of the lessons as simple as possible, and strongly commended Mason's grammar, the authorized text book, as the best published.

The president was, on motion of Mr. Adams, seconded by Mr. Ferguson, warmly thanked for his kindness in presiding and his interest in the work of the association. He briefly acknowledged the expression, assuring the members of his interest in the association, and saying that the longer he was engaged in educational work the better he liked it. He strongly recommended to the teachers the CANADA SCHOOL JOURNAL, and offered, as provincial editor of the same, to forward suitable contributions from teachers in this Province. In conclusion, he urged upon them a sense of the dignity and importance of their work, saying that he looked for noble results from educational work here, believing that there would be in a few years as fine a system of education here as there was anywhere in the world. Officers for ensuing year: President, Rev. W. C. Pinkham, B. D.; 1st Vice-President, Mr. J. B Ferguson; 2nd Vice-President, Mrs. J. Chisholm; Secretary, Mr. W. A. McIntyre; Treasurer, Miss S. A. Wright. Councillors, Miss M. Shore, Miss L. McIlroy, Miss Spenser, and Mr. Burrell.

The convention was then closed by the President pronouncing the benediction.

At a special meeting of the Council of the University of Manitoba, held on the 29th March, Rice M. Howard, B.C.L., was unanimously elected Registrar. The authorities of Manitoba College, have lately purchased from the Hudson Bay Company a block of between four and five acres situated in the western part of the city for $6,000, on which the new College is to be erected. The building is to be of solid brick stone-faced, with a basement and three stories; it is to be heated by steam and fitted up for gas and water. The part to be erected during the present summer will cost $20,000. Hopes are entertained that the whole of this sum will be subscribed. The subscription list in Winnipeg though still incomplete has already reached upwards of $10,000. Up to the present time no subscription less than thirty dollars has been received, but a movement is on foot among the young men by which it is hoped that $2,000 may be raised in sums of from five to twenty dollars. As the College is for the whole Province, and now has students from different parts of it, it is expected that subscriptions will be obtained at Emerson, Portage la Prairie, Morris, Selkirk, Kildonan, North St. Andrews, etc.

At a recent special meeting of the Board of Education a number of amendments to our school laws were unanimously agreed upon. They relate to the formation and readjustment of school districts, the calling of school meetings, the levying and collecting of school taxes, the sale of lands and tenements for arrears, and the change of the annual school meeting to the second Monday in July, in order to bring our school law into greater harmony with the Municipalities Act, and for other important reasons. Provision is made whereby the trustees who retire at the annual meeting in February shall continue in office until the July following.

At the last meeting of the Winnipeg School Trustees, a number of plans for the enlargement of the public schools were considered, and the Building Committee was instructed to report one week thereafter, giving the architects' estimates.

QUEBEC.

The quarterly meeting of the Protestant Committee of the Council of Public Instruction was held at the Education Office, Quebec, on Feb. 23rd. The report of the sub-committee on Text-books was adopted: it objects to the rigid uniformity prescribed by the School Book Law of 1880, in limiting schools to the use of one text-book only, as it creates monopolies, and works injuriously to the interests of education.

The sub-committee on the publication of the *Educational Record* presented a favorable report.

A motion expressing regret for the decease of the Hon. Judge Dunkin was carried unanimously.

We regret to hear of the suspension from office of Dr. Miles, by Mr. Chapleau's government, on the ground of his having written over his own signature a criticism of the Pension Act. We do not know the particulars, but the Pension Act is certainly regarded with dislike by many of the Protestant teachers, and Dr. Miles is a man so distinguished for services to science and education that we feel any harsh treatment of him would be much to be deprecated.

Readings and Recitations.

BEAUTIFUL THINGS.

BY ELLEN P. ALLERTON.

Beautiful faces are those that wear—
It matters little if dark or fair—
Whole-souled honesty printed there.

Beautiful eyes are those that show,
Like crystal panes where hearth fires glow,
Beautiful thoughts that burn below.

Beautiful lips are those whose words
Leap from the heart like songs of birds,
Yet whose utterance prudence girds

Beautiful hands are those that do
Work that is earnest, brave and true,
Moment by moment, the whole day through.

Beautiful feet are those that go
On kindly ministries to and fro—
Down lowliest ways, if God wills it so.

Beautiful shoulders are those that bear
Ceaseless burdens of homely care
With patient grace and daily prayer.

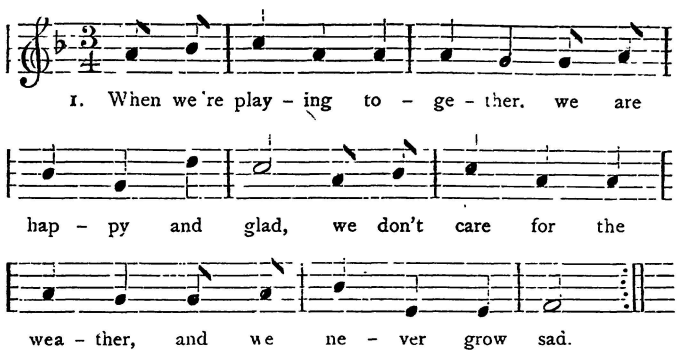
Beautiful lives are those that bless—
Silent rivers of happiness,
Whose hidden fountains but few may guess.

Beautiful twilight, at set of sun,
Beautiful goal, with race well won,
Beautiful rest with work well done.

Beautiful graves where grasses creep,
Where brown leaves fall, where drifts lie deep
Over worn-out hands—oh, beautiful sleep!

EXTENSION MOTIONS.

ARRANGED BY MISS BERTHA SIMS.



2. Now we're ready, all standing
One by one in a row;
Heads erect, in position
Of attention, you know.—La! la! la! &c.

3. Then, our hands we bring forward
With elbows unbent,
And, throwing them outward,
They backward are sent.—La! la! la! &c.

4. Like the sails of a wind-mill,
When filled with the wind,
Our arms we turn swiftly
From front to behind.—La! la! la! &c.

5. When the trees of the forest
Bend low 'neath the blast,
'Mong the leaves and the branches
The wind rustles fast.—La! la! la! &c.

The first, second, and third Extension Motions prescribed for the British Army are recognized in every country as among the best calisthenic exercises ever used. Either as parts or in their entirety they enter into every system of calisthenics, and should be practised in all schools. They may be performed in time with the singing of the second, third and fourth verses of the above piece. In each case the pupils get ready for the exercise while singing the words of the verse, and perform it while singing the chorus to the same tune. At the beginning of the fifth verse, the hands are raised to the full extent of the arms; the body is bent forward as far as possible while singing the second line, and raised while singing the third line, the arms being still held up. During the singing of the fourth line and the chorus, the fingers are moved as rapidly as possible, to represent the rustling of leaves in the wind. The effect of the latter exercise is very pretty, and the finger development is of great value to the children.

Teachers' Associations.

The publishers of the JOURNAL will be obliged to Inspectors and Secretaries of Teachers' Associations if they will send for publication programmes of meetings to be held, and *brief* accounts of meetings held.

TORONTO.—A special meeting of this body was convened in the Wellesley School on Saturday, 2nd ult. to consider and discuss the circular respecting the Superannuated Teachers' Fund, submitted by the Legislative Committee of the Ontario Teachers' Association. (This circular appeared in last month's issue of the CANADA SCHOOL JOURNAL.) The report of the Library Committee was also to be considered. The president, Mr. J. Lauchlin Hughes, Inspector of City Schools, called the meeting to order at 9.30 a.m., and opened the proceedings in the usual manner. The attendance was very large, and a considerable amount of interest was evinced in the discussions. It was decided to take up the clauses in the circular *seriatim*, and some important changes were made, principally in clauses 3, 6, 9, and 11. In clause 3, Mr. Spence proposed, Mr. Powell seconded, and after a lively debate it was carried that, instead of "two per cent. of the salary," &c., the following be substituted: "That each teacher and inspector be required to pay a minimum of four dollars, and that it be optional with such teacher and inspector to pay in addition 4, 8, 12 or 16 dollars; the retiring allowance to be proportional to such payment as hereinafter provided." To meet this arrangement clause 6 was altered so that optional payers into the fund may, in addition to the compulsory payment, pay up compound interest on the difference, if he or she should become a contributor under the option aforesaid; and in clause 9 it was agreed that those who taught for thirty years, or reached the maximum ages for male and female teachers respectively, should receive a retiring allowance of not less than five-sixths of his or her contribution in respect of each year of teaching, and if the service had not been continuous, then in respect of the number of years of actual service and amount of contribution. In clause 11, "or disability" was inserted after "decease."

In the discussion, Messrs. Spence, Hendry, Powell, Clarke, Phillips, Doan, and McAllister took leading parts. The clauses were then passed *in globo*, and the amendments were handed over to a committee consisting of Messrs. Spence, McAllister and Doan to arrange in suitable form. On the motion of Mr. McAllister, seconded by Mr. Powell, it was decided that a copy of the revised clauses be sent to the representatives in Provincial parliament and to the secretary of the Teachers' Legislative Committee. The report of the Library was then read by Mr. F. S. Spence as follows:—(1) That funds to the amount of forty dollars be appropriated to the professional literature for the Association library. (2) That the Association furnish its paid up members with the CANADA SCHOOL JOURNAL for 1881, for the sum of twenty-five cents, the Association paying the balance of the yearly subscription to that periodical; provided that, in case any such member so requests, the secretary shall—instead of furnishing him with the said journal—appropriate on his behalf a sum equal to the named balance as part subscription to any other educational periodical. (3) That the Association purchase a copy of some good educational work for each school, the same to become the property of such school; and that each member be requested to read the same before the next meeting of the Association." On clause 2 an animated debate was maintained, as many plans and projects were suggested; ultimately the report of the Committee was adopted in its entirety, and there being no further business the meeting adjourned.

It may here be mentioned that about 120 of the city teachers are now subscribing to the CANADA SCHOOL JOURNAL.

TEACHERS' ASSOCIATIONS, 1881.

SUMMARY.

COUNTY.	Place of Meeting.	DATE.
Lennox and Addington	Napanee	6th and 7th May.
City of Kingston	Kingston	6th and 7th May.
North Essex (Local)	Maidstone Cross	2nd May } English Teachers.
	Woodslee	1st June }
	Stoney Point	16th May—French do.
East Victoria	Omemee	13th and 14th May.
Prince Edward	Picton	13th and 14th May.
Renfrew	Arnprior	19th and 20th May.
District No. 2, Leeds	Farmersville	19th and 20th May.
Lincoln	St. Catharines	20th and 21st May.
Ontario	Cannington	27th and 28th May.
North Wellington	Drayton	19th and 20th May.
South Grey	Flesherton	19th and 20th May.
East Grey	Thornbury	26th and 27th May.
North Simcoe	Barrie	19th and 20th May.
City of London	London	27th and 28th May.
Elgin	St. Thomas	12th and 13th May.

PRINCE EDWARD.—Programme for Convention to be held in Council Room, Picton, 13th and 14th May: Arithmetic—Discount, S. E. Martin; Superannuation of Teachers, Convention; Method of Teaching Writing, Messrs. Powers and Wilson; Arithmetic—Alligation, W. Benson; The Teacher's Influence, R. B. Mastin; Mental Arithmetic to a Class, J. Kinney; Derivation, R. Dobson, B.A.; Constituents of Water, with experiments, W. Briden, B.A.; English Grammar and Literature, J. M. Buchan, M.A., H.S. Inspector; Public Lecture on Friday Evening 13th, by Mr. Buchan. Every teacher is expected to attend punctually on both days. Questions for explanation are invited. Specimens of writing and drawing by pupils are also requested. Opening Session 9 a.m. Friday.

J. KINNY, Secretary. G. D. PLATT, President.
Picton, 20th April, 1881.

KINGSTON.—Programme—Friday, May 6th, 9 a.m., President's Address; 10 a.m., Botany, Prof. Fowler; 11 a.m., English Literature, Mr. T. H. McGuirl; 2 p.m., Pronunciation, Mr. W. G. Kidd, P.S.I.; 3 p.m., English Grammar, Mr. Wightman; 4 p.m., Question Drawer. Public Lecture at 7.30 p.m. by Col. Strange, R.A., on Physical and Intellectual Training in Schools. Saturday, 9 a.m., A-Paper, Miss D. St. Remy; 10 a.m., Corporal Punishment in Schools; 2 p.m., Reading; 3 p.m., Religious Instruction in our Schools. Musical selections will be introduced between the different papers.

A. P. KNIGHT, President. THOS. H. MCGUIRL, Sec.-Treas.

LENNOX AND ADDINGTON.—A meeting of this Association will be held in the Model School, Napanee, on Friday and Saturday, 6th and 7th May, commencing at 10 a.m. on Friday. The business of the Session will be:—Election of officers. The discussion of the following subjects:—1. Methods of teaching Geography, Arithmetic to beginners, English in Public Schools, History and Reading; 2. School Management; 3. Hygiene; 4. Uniform Promotion Examinations; 5. Proposed changes in the law regarding the Superannuation of Teachers. J. M. Buchan, M. A., High School Inspector, will be present to take part in the discussions. The following persons will also assist:—Mrs. Pomery, Messrs. Fessenden, Martyn, Irwin, Bowerman and others. On Friday evening, Mr. Buchan will lecture in the Town Hall, subject, "Poetry and Politics." Teachers are requested to bring in specimens of their pupils' drawing and writing.

GEO. KIMMERLY, Sec. pro tem. F. BURROWS, President.

EAST GREY.—The next semi-annual meeting of the above Association will be held in Andrews' Hall, Thornbury, on Thursday and Friday, the 26th and 27th of May, 1881, commencing at 9 a.m. The following is the Programme:—Reading Minutes, School Law and Education, by the President; Natural Philosophy, by D. Honeywell; the programmes in High and Public Schools, by H. DeLeMatter; History, by John Tait; Superannuation by M. McKinnon; the three great powers, by Rev. A. T. Coulter; the Second Book, by W. J. Bingham; Music, by Geo. Henderson. Other subjects, such as the best method of teaching Grammar, Utility of Text Books, Teachers' Examinations, &c. &c., will be taken up by different members of the Association. All members of the Association are requested to attend, and the public are cordially invited. There will be an Entertainment on the evening of the first day, and assistance is respectfully solicited by Mr. Henderson, under whose management the Entertainment will be given. Admission, 10 cents.

A. GRIER, President. J. FAREWELL, Secretary.

SOUTH GREY.—The Semi-Annual meeting of this Association will be held in Flesherton, on Thursday and Friday, 19th and 20th May, 1881. Programme:—1. President's Address; 2. Rev. J. Somerville, Permanency of the Teacher's Work; 3. J. Tait, B.A., Natural Philosophy; 4. W. O. Conner, B.A., Natural Philosophy; 5. J. A. Greg, How to Secure Uniformity of Classification in the Schools of the County; 6. M. N. Armstrong, Theory vs. Practice in Teaching; 7. W. J. Galbraith, Geometry to Beginners; 8. R. D. Irving, Arithmetic to Beginners (class); 9. W. A. Jones, Teachers' encouragements and discouragements; 10. M. P. McMaster, Mistakes in Teaching Reading to Beginners; 11. N. W. Campbell, Grammatical Analysis and Parsing; 12. W. G. Allister, Geography to Juniors; 13. C. W. Morey, Geography, with class; 14. I. C. Buchan, How to teach Composition; 15. Election of Officers. Questions for Drawer to be sent as early as possible to M. N. Armstrong, Durham, or W. A. Jones, Yeoville. A suitable Entertainment will be provided for Thursday evening. "All Masters and Teachers shall regularly attend the Teachers' Institutes, at such times, and under such regulations, as the Inspector shall direct."—Extract from Public School Regulations.

WM. FERGUSON, I.P.S., President. J. C. BAIN, Secretary.

NORTH WELLINGTON.—The Semi-Annual meeting of this Association will be held in Central School, Drayton, on Thursday and Friday 19th and 20th May, 1881. Programme:—1. President's Address; 2. Question Drawer Opened; 3. Appointment of Committees of Finance, Place of Meeting, and Election of Officers; 4. Roll Call; 5. How to Teach Grammar, S. B. Westervelt; 6. Reading from IV. Reader, Miss A. Doyle; 7. How to Teach Drawing, T. A. Bellamy; 8. How to Teach Analysis to Beginners, R. E. Hamilton; 9. How to Teach English Literature to Beginners, D. E. Smith, B.A.; 10. Addition of Fractions, John Sinclair; 11. The Public School Course of Study, R. W. Bright; 12. Questioning, Philip H. Harper; 13. Deductions, and How to Work Them, Jas. McMurchie, B.A.; 14. Our Readers, David P. Clapp, B.A., P.S.I., Harriston; 15. Election of Officers; 16. Question Drawer closed; 17. Superannuation of Teachers; 18. How to Teach Geography, M. A. Ferguson; 19. Compulsory Education, H. Bailey; 20. Uniform Promotion Examination, A. B. Smith; 21. How to Secure and Retain Order, H. Bulmer; 22. Canadian History to III. Class, Jas. Copeland; 23. How to make School Attractive, H. Duggan; 24. Treasurer's Statement; 25. Secretary's Report; 26. Etymology, A. S. Lown, B.A.; 27. How to teach Writing, C. Bowerman. There will be an Entertainment in the evening, consisting of readings, music, and a discussion on the Teachers' Superannuation Fund. You will confer a favor on the officers if you bring the April number of the CANADA SCHOOL JOURNAL, which contains a scheme submitted by the Minister of Education to the officers of the Central Association. Read and study this Circular. During the first forenoon the Drayton teachers will be teaching and conducting the divisions of the Public Schools after their Time Tables. The first forenoon will be spent in visiting the school when it is in working order. The officers earnestly hope that the meeting may be really successful in every way. On account of the discussion which will take place on Superannuation scheme, every teacher should be present, and this meeting will be the most important yet held by us. Again you are asked to be *punctual*.

WM. MCEACHERN, Secretary. JOSEPH REID, B.A., President.

REVIEWS.

A SYSTEM OF DICTIONARY WORK FOR COMMON SCHOOLS. *Bloomington, Ill.: Maxwell & Co.* This is one of the most practical of the numerous works recently issued on the subject. It is simply amazing that teachers have so long been content to aim at securing purity of language merely in form, without seeming to care whether words were uttered distinctly or pronounced accurately or not. It is pleasing to note the increased interest awakened in regard to the subject, and we commend strongly this little work to the teachers of Canada. It contains an analysis of sounds, the principles of pronouncing, common errors of a fundamental character, and lists of words commonly mispronounced.

TEACHERS' HAND-BOOK—FIRST STEPS. *Syracuse: C. W. Bardeen & Co.* This is a new work for teachers by Professor Buckham, Principal of the State Normal School of Buffalo. Mr. Bardeen has published many aids for teachers, but he claims that this is the most valuable book of its kind he has issued. It is intended for the young men and women who are just entering the teaching profession, and it certainly has a suggestion or a warning that would help such a teacher in every emergency. Mr. Buckham, in his preface, says that he "meant to take a short range and aim low." He has done so; but on the admitted principle that a good sermon preached for juniors is usually highly appreciated by adults, this work will be very useful to many who have long been engaged in teaching.

THE CANADIAN ACCOUNTANT. *By S. G. Beatty and J. W. Johnson, Ontario Business College, Belleville, Ont.* The fourth edition of this popular and exhaustive treatise on accounts and their collateral branches is before us. The work has been thoroughly revised and enlarged, and much valuable and practical matter has been added. It contains a complete elucidation of the science of accounts by the most practical methods, Business Forms, Commercial Calculations, Business Papers, and the principal laws that govern them, Commercial Correspondence, and, in fact, everything required in a complete reference work for the Counting House. Municipal accounts are thoroughly exemplified, and to the present edition has been added a model set of Farm Accounts, originally prepared by Mr. J. W. Johnson for the Royal Commission appointed to take evidence on agricultural matters, and recommended by it to the farmers of the Province. The whole work of this set is given, and it is so simplified that it may be readily taught to farmers' sons by any teacher acquainted with the rudiments of accounts. We heartily recommend the work to teachers as one of the most practical and comprehensive works on the subject of accounts published on the continent.

MAGAZINES.

Of the success of SCRIBNER'S in England, Mr. Jennings writes as follows to the New York *World*: "What I was going to tell you about was the wonderful way in which American magazines are getting on in London. Scribner's has had a very large sale here for some few years past, and its circulation must now be, I think, fully as great as that of any English magazine, and it would not surprise me to hear that it is greater. Its illustrations have made its way easy for it. A very distinguished wood-engraver once told me that no work done in England in his line now-a-days is worthy to be compared with what he saw every month in Scribner's. If I mentioned his name, there is no one on either side the Atlantic who would dispute his fitness to pronounce an opinion on such a subject. The rapid advance of Scribner's is easily accounted for, and is thoroughly well-deserved.

THE MUSICAL TIMES for March contains a description of Stanford's Grand Opera, as performed for the first time in Hanover. Its title is "The Veiled Prophet of Khorassan." It abounds in striking scenes and rich musical passages, and has excited especial interest because of its being the work of an English composer. The story of "Mr. Pepys the Musician" is continued, as well as sketches of "The great composers"—Berlioz this time—of considerable interest. An anthem called "O Saving Victim," of some merit, and a description of Ponchielli's opera, "The Prodigal Son," are also to be found in this interesting number.

Official Department.

INSTRUCTIONS AS TO THE JULY EXAMINATIONS, 1881, FOR CERTIFICATES TO PUBLIC SCHOOL TEACHERS.

In accordance with the Statute and the General Regulations, the July Examination of Candidates, for the year 1881, will be held as follows:—

FOR FIRST CLASS (Grade C., Non-professional)—At the Normal School, TORONTO, on MONDAY, July 18th, at 2 p.m.

FOR INTERMEDIATE EXAMINATION—At the County Towns and High Schools, on MONDAY, July 11th, at 2 p.m.

The Professional Examination for First Class Certificates will begin after the conclusion of the Non-professional Examination.

The Examination for First Class Certificates, Grades A and B, will begin after the conclusion of the Professional Examination.

It is indispensable that Candidates, whether from a County or a City, as the case may be, should notify the presiding County Inspector, not later than the 1st of June, of their intention to present themselves for examination. All notices to the Department of intending Candidates must be sent through the presiding County Inspector.

Forms of the notice to be given by each Candidate previously can be obtained on application to any County Inspector.

The presiding County Inspector will inform the Department, not later than the 2nd of June, of the number of Candidates in each Class. He will also send the names of the First Class and Intermediate Candidates in the form of Return provided, which he will receive from the Head Master of the Collegiate Institutes and High Schools in his County.

The Intermediate Examination Papers will be sent to the Presiding Inspector, who will be responsible for the conduct of the examinations according to the Regulations. The Presiding Inspector will, at the close of the examination on the last day, transmit to the Department the answers of the Intermediate Candidates. All parcels must be prepaid.

ADAM CROOKS,
Minister of Education.

Education Department, Toronto, March, 1881.

A LONG-FELT WANT SUPPLIED.

Gage's Practical Speller,

A MANUAL OF SPELLING AND DICTATION.

PRICE, - - - - - - 30 CENTS.

(FROM THE PREFACE.)

The old-fashioned Spelling Book has been discarded by Teachers generally. Many valid objections were properly urged against its use and it passed away.

Entire dependence upon *oral spelling* may also be fitly styled a method of by-gone days. Unfortunately for the old spelling book, it was associated with all the folly and weakness of "oral spelling," and this partly accounts for its rejection.

What have the reformers given as a substitute for a speller? They took our bread and have given in return but a stone. The bread even though a little stale was much more wholesome than the stone. In Canada, parts of the lessons to be found in the Readers are taken as Dictation lessons, and the pupils are turned loose on society to shock it by their bad spelling, and disgrace the schools which they attended and in which they should have been taught. The Readers do not contain all the words boys and girls will have to spell in life, and if they did, the lessons are not arranged in proper form for spelling lessons. Only a comparatively small portion of the Readers can be written from dictation in schools. Bad as were the old spellers, they were infinitely better than nothing. This fact is now recognized in Great Britain and the United States, in both of which countries many valuable spelling books have recently been issued. That these were necessary in England is clearly shown by the fact that at a recent Civil Service Examination "no less than 1,861 out of 1,972 failures were caused by bad spelling.

A practical dictation Speller is clearly a necessity, and this work has been prepared to supply an obvious want in the programme of Canadian schools. The claim to the name "practical" is based on the fact that it is not a mere collection of thousands of "long-tailed words in *osity* and *ation*," but contains a graded series of lessons to teach the pupils the proper spelling of the words which all have to use.

PROMINENT FEATURES:

The book is divided into five parts as follows:

PART I.

Contains **THE WORDS IN COMMON USE IN DAILY LIFE TOGETHER WITH ABBREVIATIONS, FORMS, Etc.** If a boy has to leave school early, he should at least know how to spell the words of common occurrence in connection with his business.

PART II.

Gives **WORDS LIABLE TO BE SPELLED INCORRECTLY** because the same sounds are spelled in various ways in them.

PART III.

Contains **WORDS PRONOUNCED ALIKE BUT SPELLED DIFFERENTLY** with different meanings.

PART IV.

Contains a large collection of the **MOST DIFFICULT WORDS IN COMMON USE,** and is intended to supply material for a *general review*, and for spelling matches and tests.

PART V.

Contains **LITERARY SELECTIONS** which are to be *memorized* and *recited* as well as used for *dictation lessons*, and lessons in *morals*.

DICTATION LESSON.

All the lessons are suitable for **DICTATION LESSONS** on the slate or in dictation book.

REVIEWS.

These will be found throughout the book.

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☞ Artists, Teachers and School Officers visiting New York, are cordially invited to make the Educational Department, 73 Franklin Street, their office. It will be a pleasure to serve them in any way, and enable them to examine the manufactures of the Eagle Pencil Co., and to give them a most thorough test.

Univ. of Michigan Library

CANADA SCHOOL JOURNAL

Entered according to Act of the Parliament of Canada, in the year one thousand eight hundred and seventy-eight, by ADAM MILLER & Co., in the office of the Minister of Agriculture.

VOL. VI. TORONTO, JUNE, 1881. No. 49.

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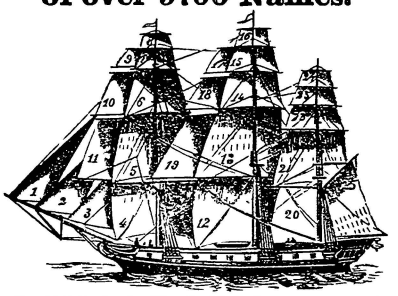

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—Through the use of a wrapper on which was printed a notice, now obsolete, several of our subscribers have been under the impression that their term of subscription had expired. As this notice was turned inwards, our friends might have known it was not intended to apply to them, especially as we announced in the April number, page 77, that THE DATE ON THE PRINTED ADDRESS LABEL INDICATED THE MONTH ON WHICH THE SUBSCRIPTION WOULD END. Subscriptions through the Education Department, Nova Scotia, TERMINATE IN DECEMBER unless otherwise specified on the address label. No special notice can be sent to subscribers when their term is up, and as the JOURNAL will be stopped strictly to time, they should observe the date if they intend to renew. When subscribers change their address they should notify this office, giving the previous address in addition to the new one. Our Nova Scotia friends are requested to specify the county as well as the post-office. These notices should be sent not later than the 20th of the month.

ENGLISH RURAL SCHOOLS.

The CIRCULARS OF INFORMATION issued by the Bureau of Education connected with the Department of the Interior of Washington are, as successive numbers appear, of increasing value and interest. One of the latest circulars treats of English Rural Schools, and furnishes valuable information on a subject imperfectly understood even by prominent educators on this Continent. This information, as the Commissioner of Education, General Eaton, points out, in a prefatory letter addressed to the Secretary of the Interior, has been sought and obtained with special reference to the improvement of American Education in rural districts. The prominent fact established by this interesting report by Professor Hulbert, of Middlebury College, Vermont, is the great development and progress of Elementary Education in England under the Education Act of 1870. We learn that, in round numbers, about 2,500,000 children are in average attendance at those Elementary Schools of England and Wales which are inspected and receive the government grant. During the year ending August 31, 1878, the inspectors of public elementary schools visited 16,293 day schools in England and Wales to which annual grants were made. On the registers of these schools 3,495,892 children were enrolled, of whom 1,189,557 were under 7 years of age, 2,158,179 between 7 and 13, and 148,156 over 13. On the day of inspection 2,944,127 pupils were present, and the average attendance was 2,405,197.

All the public elementary schools of the country, whether in towns or rural districts, are under the same law, embodied in successive educational Acts from 1870 downwards, together with the annual codes published by the Education Department. This Department has charge of the inspection of all the schools that come under the law, of the maintenance of a sufficient number of efficient schools, of the payment of all grants earned by the schools in their examinations, of the support of training colleges for teachers, and of the interests in general of public elementary education throughout the country. A detailed report is made annually, stating in full the progress of education in town and country. "Thus all the educational interests of the nation are brought under the control of a school administration, which has its head at Whitehall, London, and sends out its branches to even the most remote and inaccessible regions of Great Britain, carrying with it a national influence."

The public elementary schools of England and Wales are of two kinds: (1) Schools organized under School Boards since 1870, including a large number transferred since that date to School Boards by their former authorities or patrons, and (2)

Schools controlled by a voluntary attendance Committee, in whose support voluntary contributions take the place of taxes or rates in the sustentation of Board Schools. The latter schools are sustained by funds from three different sources: (1) Fees from the scholars, which cannot exceed 9d. per week for each scholar, and which generally vary in rural districts from 1d. to 6d. per week. 66·61 per cent. of scholars in England and Wales pay less than 3d. per week, 3·07 per cent. only are free; (2) The government grant, varying with results of examination and attendance; (3) Taxes, supplying any deficiency from above sources.

As pointed out, the two classes of schools agree in two out of three sources of support. The schools in cities and large towns are chiefly Board (entirely public and non-denominational) schools. In the rural districts, the voluntary schools—for the establishment of which, however, government aid is not given—largely preponderate. The ratio of the former to the latter is slowly increasing. Sources of voluntary aid dry up, and the schools are transferred to regular Boards. Lord Derby, at Liverpool, predicted "the final extinction of voluntary schools and the complete ascendancy of School Boards throughout the country." Such a result is obviously far off in the future, though we need not be surprised to find that the more reliable support of the system of rates enjoyed by the Board Schools, is giving them a confessed superiority as educational instruments. Altogether, the circular, a portion of whose contents we have summarized, is full of important information. Such points as school buildings, organization, modes of instruction, &c., are well elucidated. One marked distinction between English and American systems of public education is clearly pointed out, and some of its effects traced. As a rule, the English school is not patronized by those who control its management. It is for the children of other and humbler classes. The American, and, we may add, the Canadian, school represents a different type of idea, having for its motto, FREE FOR ALL AND GOOD ENOUGH FOR ALL.

VICTORIA UNIVERSITY.

The Convocation which took place at the conclusion of the exercises of Victoria University was one of great brilliancy and attraction. The assembly in the Town Hall, Cobourg, where it was held, comprised over 1,000 persons, and included a representation of beauty and learning which might vie with any similar assemblage in the world. The President of the Convocation, Rev. Principal S. S. Nelles, D.D., occupied the chair, and near him on the platform were Mayor Gravely, Cobourg, Mr. J. Field, M.P.P., Professors Wilson, Burwash, Rynar, Haanel, Smoke, members of the Board and Senate; Rev. R. Jones, Rev. A. Sutherland, D.D., Mr. Wm. Kerr, M.A., Q.C., Rev. S. Rose, D.D., Messrs. W. W. Dean, M.A., J. J. McLaren, M.A., LL.B., Q.C., Montreal; W. E. Sandford, Hamilton; J. Dumble, M.A., W. Beatty, LL.B., and other members of the Senate; Rev. A. Burns, D.D., D. C. McHenry, M.A., Mr. H. Hough, M.A., representatives of the Alumni in Arts; also Dr. Ogden, Toronto; Rev. J. Wakefield, President London Conference; Rev. T. W. Jeffery, J. A. McLellan, LL.D., and J. M. Buchan, M.A., Inspectors of High Schools; J. E. Rose, LL.B., J. F. Jerman, M.A., and J. F. Gravely, of Cobourg.

The Rev. J. Wakefield having offered the opening prayer, the valedictory oration was delivered by Mr. L. V. Hill, who took for his subject "General Wolfe," and did full justice to the theme. Afterwards the prizes were delivered. The title of LL.D. was conferred on Mr. Adam Purslow, who won the degree by merit, and is the first to receive the honor in Victoria University. Dr. Aikins, President of the Toronto School of Medicine, had the honorary degree of LL.D. conferred on him, and the President spoke in eulogistic terms of that gentleman's high attainments. Similar praise was accorded to the abilities of Dr. D'Orsonnens, President of Montreal School of Medicine, upon whom the honorary title of LL.D. was also conferred. Mr. S. W. Perry, B.A., of Brampton, was presented with the Prince of Wales' Gold Medal by Mr. Sandford, of Hamilton, and Mr. J. M. Buchan, H. S. I., presented the silver medal to Mr. Chas. W. Lasby, B.A., of Acton. The scholarship in mathematics was presented to Mr. L. E. Horning, of Brantford, by Dr. J. A. McLellan, H. S. I.

In the course of an eloquent address which followed these interesting proceedings, Dr. Nelles announced that five new gold medals had been donated by the members of the Senate, viz.: for Classics, by Mr. W. E. Sandford; Modern Languages, by Dr. Sanderson; Mathematics, by Rev. J. Potts, D.D., and Mr. J. J. McEwen; and Metaphysics, by Rev. Dr. Nelles: also that Mr. S. J. Janes had added five silver medals as second prizes in these subjects. The President likewise announced that Mr. and Mrs. Jackson, of Cobourg, had given a handsome sum to endow a chair of theology in the University, and a gentleman whose name he was not at liberty to disclose had promised $25,000 to endow another chair. These statements were received with rapturous applause. After short addresses by Revs. Dr. Sutherland and Dr. Rose, Judge Dean and Mr. Wm. Kerr, M.A., one of the most brilliant and successful convocations of the University was closed with the benediction by Rev. R. Jones.

—The National Union of Elementary Teachers met recently in London, and its members received considerable attention from distinguished persons. The Archbishop of Canterbury offered the use of Lambeth Church for the meeting, and the Lord Mayor and Lady Mayoress held a special reception in their honor at the Mansion House. In the course of an address to the teachers, the Lord Mayor asked them not to regard their assembling together in the light of a public meeting. He had hoped that a number of influential gentlemen would have been able to meet the teachers; but, unfortunately, the Conference was held at a time when "everyone was out of town." Considering that the teachers occupied a position of the greatest importance in the country, he felt that he should be doing less than his duty if he did not invite them to this public reception at the Mansion House. Happily for England, the days were past when no attention was paid to education—in fact, there

could not be a greater contrast than between the present time and some thirty or forty years ago in the matter of education. He was glad to say that we had now a system of education whereby every boy and girl, no matter how humble or poor he or she might be, could obtain an education that would fit him or her to discharge the duties of a citizen and to be an honor and blessing to the country. The importance of the teacher's profession was now recognized. He was pleased that the schoolmasters could now take their position as one of the powers of this country, and he had no hesitation in saying that much of the happiness and prosperity of the country would depend upon the manner in which they discharged their duties. On the part of himself and the Lady Mayoress he heartily welcomed the elementary teachers to the Mansion House, and he hoped they would make themselves thoroughly at home. He then explained that the teachers were at liberty to roam over the Mansion House, and for their gratification instrumental and vocal music had been provided; whilst in one of the rooms they would find tea, coffee, and other light refreshments, of which he hoped they would freely avail themselves.

The following remarks from the *Lancet* are especially worthy of the attention of those who have charge of primary classes, and of parents who place their children at home in charge of nurses :

"When we reflect upon the position of the nurse in regard to our children, the sway which she exercises over them for many hours in the day and night, we must feel how little is ordinarily known of the competence of those we employ for so responsible a charge. It is not so much the willingness of the nurse to do right that is in question, as her knowledge of the principles upon which the early education of a child should be conducted. It is not so long since any old woman, who was too decrepit to do anything else for her living, was considered to possess to perfection the requisites for a sick nurse. The art of cooking was apparently supposed to be inborn in individuals who aspired to the culinary department of domestic service. A tradesman who had failed in his business was as certain to set up a preparatory school as a military man on quitting his profession took to the wine trade. And so, even at the present day, any woman who declares her proficiency, is supposed to be endowed with the power of directing the education of a child, the right conduct of which will probably have more influence upon its future happiness than any other circumstances, except the qualities which it possesses by inheritance. It is time that something was done to arrest the present anomalous state of things."

—We call the attention of all our readers who believe in the necessity of improvement in the art of reading and in the scientific delivery of speech, or who aspire after excellence in elocution, to the fourth Summer Session of the Toronto School of Elocution, advertised in our columns. The long experience and high reputation of Mr. Lewis as a teacher of elocution and as a writer on the art, assisted by Miss Lewis, Graduate of the Philadelphia National School of Elocution and Oratory, are undoubted guarantees of the advantages offered to all who may avail themselves of the session. Miss Lewis has had large classes in Toronto, Brampton, &c., and recently addressed the North Grey and Bruce Association, with marked success, on Elocution in our schools. She is the teacher of Elocution in Miss Nixon's Ladies' School, the leading Ladies' Academy in Toronto, and as a public reader has taken a position of undoubted eminence.

—The recent code of school regulations introduced into France makes several important changes in the government of the schools. In the first place, corporal punishment of any kind is altogether and unreservedly abolished; and this being the case, the striking of any school-child will not only be an offence against the official *règlement*, but will render the offending teacher amenable to prosecution *pour sévices* or cruelty. In the next place, the right of the father to decide whether his son is to receive religious instruction or not is distinctly recognized, and it is provided that he shall always be consulted before the boy is permitted to participate in devotional teaching. It is furthermore decreed that children shall not be sent to church to be catechised, nor, indeed, to matins, mass, or vespers, except out of school hours; and that no teacher shall be bound to conduct them to church or to watch over them there.

—The following is from the London *Standard*, and we have much pleasure in endorsing the remarks of Hon. Mr. Childers, as well as the comments of the *Standard :*

Addressing the members of the Royal Arsenal Volunteer Corps at Woolwich, last Saturday, Mr. Childers said that in his boyhood it was a common thing to teach drill in schools. The practice, however, was gradually abandoned, till about the time of the Crimean war it was scarcely known to exist. The Secretary for War thinks it was a good custom, which might with advantage be revived; and he urges all volunteers to use what influence they possess for the purpose of introducing lessons in drill into common school training. He might have enforced his precepts by pointing to the case of Switzerland. In that country every man must serve as a soldier, only the period of his service in the ranks is excessively short. The reason why it is short is that from childhood he is taught drill in school, so that when he joins the army he is not a raw recruit, but a partially disciplined soldier. It does not take much time or trouble to make a man efficient; he is very nearly efficient when he leaves school.

—A valued correspondent writes concerning the Superannuation fund, expressing disapproval of the proposed scheme, because a man who has taught twenty-five years say, would be entitled to a full pension by paying for only five years, while he who is now beginning to teach would have to pay for the full period of thirty years. This is an error. The former would have to pay up his arrears before receiving any benefit from the fund.

—A mutual benefit association for teachers and clergymen has been founded in New England, with Hon. Mr Bicknell, publisher of the *New England Journal of Education*, as president. It is conducted on the plan of death payments, each member paying a certain sum into the general fund on the death of a member. The payments vary according to age. This seems a reasonable arrangement. Teachers in Canada may become members if they wish to do so.

—The advisability of requiring a certain amount of literary culture as a qualification for the position of School Trustee is being discussed in Scotland. We fear that legislation could not in this case effect the needed reform. What is most required in a school trustee is sufficient common sense to prevent his intermeddling with work of which he knows nothing. The worst man for the position is he who in some obscure place taught school for a year or two while he was studying for a "higher" (?) position. The only thing such a man generally retains to show that he was a teacher is insufferable conceit, because he did not remain long enough in the profession to learn by experience how little he knew about its elementary principles. It is refreshing to see such a man spread his wings, and hear him begin with "When I was a teacher," and proceed to utter opinions calculated to make Comenius, Locke, Pestalozzi and Froebel roll over in their graves.

—We have previously called attention to the fact that the question of temperance was receiving a considerable amount of recognition on the part of School Boards in England. At the last quarterly meeting of the National Union of Elementary Teachers, at Norwich, Mr. J. H. Tench read a capital paper on "Temperance," closing with the following resolution: "Having regard to the great evils of intemperance, it behoves all teachers to use their influence, not merely to promote temperance, but to encourage teetotalism among their pupils by example as well as precept." Mr. W. H. Wilson seconded, and Mr. Cox supported, the resolution, which was carried with one dissentient.

—The complaint is often made, and with too much justice that teachers are not awarded the social recognition to which they are entitled. We are glad to notice, that in at least one English town they have been handsomely entertained at the expense of the Mayor. His Worship the Mayor of Warrington gave a conversazione in honor of the elementary teachers of the town and neighborhood. The occasion was one of great interest, and the *elite* of the town conferred honor alike on the teachers and themselves by attending in large numbers.

—Mr. J. E. Bryant, M.A., has accepted the position of Principal of Galt Collegiate Institute. For some years he has been the Principal of Pickering College, where his high scholarly attainments and admirable management of that establishment won golden opinions and secured many valuable friends. We congratulate the people of Galt in having obtained his professional services, and we wish him success and prosperity in his new sphere.

—Mr. A. Purslow, M.A., Head Master of Port Hope High School, was the first on whom the degree of LL.D. was conferred by the faculty of Victoria University, Cobourg. Dr. Purslow gained his degree by meritoriously passing the necessary examinations, and the event was marked by the teachers and pupils of the High School as worthy of a presentation in the shape of an address. We heartily congratulate Dr. Purslow on the success he has so well and honorably earned.

—From the Ninth Annual Address to the English Philological Society, at their Anniversary Meeting, London, May 21, 1880, by the President, Dr. J. H. Murray, we make the following extract:—

"The use of double consonants ought to be regulated, and such bad spellings as *traveller*, and *reveller*, which seem to rhyme with *propeller*, corrected to Shakspeare's *traveler*, *reveler*. The termination of the agent *our*, should be uniformly leveled to *or*, as already done in so many words like *author*, *doctor*, *senator*, *orator*."

—The Senate of the University of London has decided to grant "Teachers' Diplomas" to those who successfully pass examinations in the Theory and Practice of Teaching. They are to be granted only to graduates of the University, and are to include a test of practical skill.

—There are in England and Wales alone 36,332 elementary teachers, and 36,303 students and pupil teachers. This army of instruction is in charge of 3,122,672 pupils.

NATIONAL EDUCATIONAL ASSOCIATION.

The Association meets this year in Atlanta, Ga. Among the distinguished men who will take part in the programme may be mentioned:

Dr. Wm. T. Harris, of Concord; Prof. N. A. Calkins, of New York; Dr. A. W. Calhoun, of Atlanta; Hon. D. F. De Wolf, State School Commissioner of Ohio; Hon. J. W. Patterson, of New Hampshire; Wm. I. Marshall, Esq.; Hon. M. A. Newell, State Superintendent of Maryland; Prof. John B. Peaslee, of Cincinnatti; Gov. Alfred H. Colquitt, of Georgia; Hon. John Eaton, U. S. Commissioner of Education; Hon. Wm. C. P. Breckinridge, of Lexington, Ky.; Prof. James Johonnot, of Ithaca, N.Y.; Prof. J. C. Gilchrist, President Iowa State Normal School; Prof. John Kennedy, of New York; Rev. Lemuel Moss, President Indiana State University; President J. W. Andrews, Marietta, Ohio; Hon. D. P. Baldwin, of Indiana; Rev. H. H. Tucker, of Atlanta; Lewis Soldan, Principal Normal School, St. Louis; Hon. J. P. Wickersham, of Pennsylvania; and C. C. Rounds, Pres. of Maine Normal School.

Some of the subjects which have been announced are:

"A Proposed Revision of the Common School Curriculum," "The Teacher's Work in the Development of Mental Power," "The Effects of Student Life on the Eyesight," "An Evening in Wonderland," "Reflections on the Brussels Congress

of Education of 1880," "Is the Same System of Common School Education Possible in all the States?" "What Constitutes a Normal School?" "Education and Building of the State," "Best Normal Training for City Teachers," "Normal Principles of Education," "Moral and Literary Training in the Public Schools," "Some Essentials in the Development of a School System."

The days fixed for the Convention are the 19th, 20th and 21st of July, a favorable time, from the observed fact that the latter part of July is cooler than either June or August.

Contributions and Correspondence.

LITERATURE FOR SCHOOL YOUTH.

A PAPER READ AT CHAUTAUQUA, N.Y., BY J. B. PEASLEE, PH.D., SUPT OF INSTRUCTION IN THE PUBLIC SCHOOLS OF CINCINNATI, OHIO.

My hearty thanks are due to the Executive Committee of the Ohio State Teachers' Association for giving me this opportunity of expressing my views on the introduction of Literature into the several grades of our schools. I shall not discuss the methods by which English Literature is now taught in our high schools and colleges, as the literary work which I advocate will not interfere in the least with that which these institutions are endeavouring to accomplish, but will be additional and supplementary to their noble work.

I desire, before entering fully upon my subject, to call the attention of this Association to some of the mistakes that are made, not only in the public schools of Ohio, but of the whole country.

One of these is the disproportionate amount of time given to the subject of arithmetic. I yield to no man in my estimate of the importance of the subject, both in regard to what is usually considered as its practical bearing upon the business affairs of life, and its excellence as a means of mental discipline. Nor am I among those who would cut down the course of study in arithmetic to a few subjects—to those only that are generally considered absolutely necessary for all to know—to that only which is so-called practical. Practical! there is a higher practical than the mere use that some of us may make of it in adding up our grocers' bills, or, perchance, in calculating discount and interest. The mental discipline, the strengthening of the mind, the intellectual power that the scholar obtains by the study of this subject is the real practical, the higher practical. It will never do to confine our course of study in mathematics to that only which popular opinion considers practical. I object not, therefore, that there is too much ground covered in the arithmetic, or that it is too well taught, but that there is too much time given to it.

You will remember that President Andrews, of Marietta, in an article written for the Ohio Educational Monthly some four years ago, said that the statistics showed that sixty-two per cent.* of the entire time of the schools of Ohio, outside of the cities and large towns, was given to arithmetic. Think of it; sixty-two per cent. of the time devoted to arithmetic, and only thirty-eight to reading, writing, spelling, geography and grammar; none to literature and composition! Let the teachers of these schools cut down the time given to this subject to within the bounds of reason; introduce composition, letter-writing and business forms. Let them stop working puzzles in mathematics—which are about as profitable as the famous fifteen puzzle—and turn their attention to reading, to improving themselves in literature, to acquainting themselves with the lives and writings of great authors, and let them take the results of that work into their school-rooms, and they would revolutionize the country schools of Ohio.

In our city schools, less time, to be sure, is given in the programmes; still, taking into consideration the amount of home work required of the pupils, and the extra time taken to "bring up" the arithmetic, it is entirely too much. A half hour per day in the lower grades, and forty minutes in the upper is amply sufficient. But the teachers have been made to feel that high per cents in arithmetic is the *sine-qua-non* of their success; hence, driving and cramming for per cents largely take the place of judicious teaching, to the great detriment of the pupils.

Fellow-teachers, let us use all our influence against this cramming, stultifying process, this driving for per cents, and teach according to the natural, the objective, the developing method. Inspire our pupils with higher and nobler aspirations than are to be found in monthly averages, and let the measure of time devoted to each subject, and the methods employed in teaching the same be determined, not by the question, how shall we obtain the highest per cents, but by what will best benefit our pupils in after life. This done, and there will not only be better instruction in all the branches, but much more prominence will be given to language, to composition and literature, and our youth will grow up under such tuition to be more intelligent, useful and influential citizens.

Another mistake, one which has a more direct bearing on my subject, as it affects the tastes of pupils for reading, is the pernicious method of teaching history usually pursued—I refer to the stultifying process of compelling the children of our schools to commit to memory text-books on this subject. No historian, as no mineralogist or chemist, was ever made by committing text-books to memory. History cannot be taught successfully by the *memoriter* plan. It kills the life of the subject. It disgusts the pupils and gives them a dislike for historical reading. As the pupils take no interest in the subject it is soon forgotten, and there remains only the bitter recollection of tiresome hours devoted to what, if properly taught, brings profit and pleasure. As one of the principal objects of this paper is to show how to interest our youth in good reading, I will briefly explain, not only how history can be made intensely interesting and exceedingly instructive to pupils, but how a love of historical research can be implanted in them that will remain with them through life, and very largely influence their subsequent reading. First, all written percented examinations in this subject should be abolished. What is said in the text-book upon the topic under consideration, should be read by the pupil under the direction of the teacher. The teacher should see that they thoroughly understand what they read, and at each lesson question them in brief review of the previous lesson. She should read, or cause to be read, parts of other histories or reference books (encyclopædias, gazetteers, etc.), that bear upon the subject of the lesson. She should also give out questions, the answers to which the pupils are to find for themselves, and should encourage them in relating historical anecdotes and in giving sketches of noted events to their classmates.

But history should be taught principally by biography. Biography is the soul of history. The life of a great personage, as of Cromwell, Napoleon, or Washington, contains nearly everything of importance in the history of the time and country in which he lived. Nothing is more entertaining to the young than the lives of the great men and women who have borne a prominent part in the world. I am not advocating a new theory. This method has been tried for two years in Cincinnati, and in one school alone more than five hundred historical and biographical sketches were

* President Andrews has informed me that the time is now reduced to fifty per cent.

read within the past year, and in one class sixty-four biographical sketches were given by the pupils to their classmates, and the constant allusion to other lives than those under actual discussion led to a wide field of further research. Let me say here, that in a class in United States History, I would not confine the biographical to our own country, but would encourage the children to read and recite sketches of noted personages of other countries and of different ages. If the method briefly indicated above be pursued the class will become enthusiastic in the subject of history, and will gain a vast amount of valuable information of which they would otherwise remain in ignorance; but, above all, they will form the habit of and a taste for reading good books, which will remain with them through life.

And another mistake consists in giving too much time in the reading lesson to mere *imitative* reading, and not enough to logical analysis—to ascertaining the meaning of the words and sentences. Children should be impressed with the fact that the principal object of reading is to obtain the ideas and thoughts of others, and therefore they should early accustom themselves to ascertaining the meaning of what they read, thato n word, no sentence may be passed over without being understood. Let me say that the dictionary should be the almost constant companion of the pupil of our Grammar and High Schools, Would you neglect the elocutionary side of the subject? I am asked. By no means. No one places a higher value on elocution, on the beautiful rendering of the reading lesson, than I do; but I insist that it is the duty of the teacher to see that the passage is thoroughly understood by the pupils before she attempts to drill them in the elocution.

I will close this part of my essay by referring to the fact that the almost universal tendency in this country, of late years, has been to crowd too much into the High School course by putting in subjects which properly belong to Colleges and Universities. To attempt, as I said in one of my annual reports, to make the High School a substitute for the College and University, must result in failure. The pupils are too young. They have not the maturity of mind required to comprehend thoroughly such a course of study. In my opinion, much of the present opposition to the High School system is directly due to this cause. To remedy the defects, and make the High Schools more efficient and popular, there should be a more judicious selection of studies, and much more time should be given to English Literature and to Composition. At least one lesson per day should be devoted to these subjects throughout the entire course.

GEMS OF LITERATURE.

Morality—if under this head may be placed honesty, patriotism, and goodwill to men—ought to come within the scope of school work, for morality in this sense is the dearest element of the good citizen, and the good citizen is the prime object of education. Our country has less lack of intelligence than of public honesty and private fair dealing, less lack of knowledge than of inclination toward a noble life—which facts show that something in the present order of society is either fundamentally wrong or deplorably weak. But where shall we seek a remedy? When and how begin to mend? The subject of moral progress does not belong solely to the religious world. It is not altogether a matter of religion; it is a matter of that good sense, that idea of public utility which considers the welfare of the immediate present, and looks with a benevolent eye to an improved manhood in the future. For morality is almost as beautiful when viewed as a guiding element to man in this world's transactions as it is when viewed as an essential to happiness in the world to come.

We cannot serve the future of this world in a better way than in taking care of the present of the children. It is in our power greatly to elevate the world in morals. We can do this by introducing into our present educational system a factor whose object shall be to give the proper direction to the child's thoughts—to implant in his mind correct conceptions of the world and his place in it—true ideas of his duty to his neighbor and his country, and of his relations to the inferior world around him, which, sinking deeper and deeper and deeper with each generation, shall eventually supplant evil, and leave a soul worthy of the inspection of gods. "As a man thinketh, so is he." Children should be led to think properly, that they may be enabled to act justly and generously. And it would be far safer both for them and the community if their acts were directed by fixed principles rather than by sudden and untrustworthy impulses. Now, as it is undeniable that to many the age of maturity does not bring with it those established ideas of right and wrong—those healthy conceptions which characterize the model citizen—I for one feel the necessity for a new feature in education, whose object shall be advancement in a moral way. I consider it our duty to attempt what I have indicated above. We owe it to the pupils as being our fellow-creatures; to the State, as being essential to that good citizenship which is the first object of free education.

The question is as to the method. My idea, as many of you know, is to make use of the gems of literature.

The literature of the world embodies a universal moral creed. In its fulness here and there may be found the holy teachings of the Bible in language pleasing to the ear of youth, and in form adapted to his understanding. It inculcates all the substantial teachings of the Scriptures without awakening the suspicion that the private realm of devotional form is to be invaded.

A broad-minded selection of noble passages, though it may not be able to do all we could wish in a moral way, can certainly do much to raise men to a high moral, political and social plane. It may not make men prayerful, but it can make them respectful and respectable. It may not give them the wisdom of statesmen, but it can make them intelligent voters and fervent patriots. It may not fit them for a future life, but it can do much toward making this one pleasant to themselves and for their fellow-men. It can put a light into their hearts that will illumine many of earth's darkest places.

I believe that gems of literature introduced into our schools, if properly taught, will be able to do these things, partly by their own directive influence on the young mind, but principally as being such a draft upon the fountain of higher literature as shall result in an abiding thirst for noble reading. The right kind of reading will induce the right kind of thinking, and proper thinking will insure correct acting.

What harmony the introduction of literature into our schools assures us! The religious world will get from it all it ever asked or expected of the Bible. The secular world will get from it nothing it could possibly object to. At the shrine of noble thoughts the devotees of all creeds may bow as brothers. Let the public schools be the instrument of forming this common love for the noble and beautiful, and who but will acknowledge they have performed a work of greatest utility to man, and added a thousand-fold to their present value as factors in human progress. Heretofore the boy's education has been no broader than his business expectations—his happiness as a man and his worth as a citizen have not been taken into account. The principles are too narrow for an age that is looking for good men as well as for good accountants and grammarians. They are unnecessarily narrow; they leave broad fields of noble soil untilled, and this soil must be tilled to bear fruit. For example, a man cannot be a patriot, except negatively, until he has been led to understand and value patriotism. But on abstract or grand subjects like patriotism, there is

an unwillingness or incapacity in most minds to think. Such minds must be enlarged before patriotism can be anything to them but a barren name ; but may not patriotic passages, under a wise teacher, promote the ordinary growth ? For who, even among the educated, has not felt a tinge of shame at the dullness of his own patriotism on reading Grimké's beautiful lines, beginning—

"We cannot honor our country with too deep a reverence. We cannot love her with an affection too pure and fervent. We cannot serve her with an energy of purpose or a faithfulness of zeal too steadfast and ardent ;" or Scott's—

"Breathes there a man with soul so dead,
Who never to himself hath said:
'This is my own, my native land !'"

What I have said of patriotism applies to all the elements of great-mindedness.

The practice, therefore, of memorizing the choice thoughts of our best writers, should be made a prominent feature of school work. Oliver Wendell Holmes says, "There is no place where an author's thoughts can nestle in so securely as the memory of a school-boy or a school-girl." It is also in accord with the advice of Arthur Helps, who says, "We should lay up in our minds a store of goodly thoughts in well-wrought words, which shall be a living treasure of knowledge always with us, and from which, at various times, and amidst all the shifting of circumstances, we might be sure of drawing some comfort, guidance and sympathy."

The idea of its introduction is not new in the history of education. In a similar manner the Germans have been long in the habit of training their children in the knowledge and admiration of the literature of their own land. The Arabs, the most civilized nation of the ancient world, taught their young to repeat the undying thoughts of their poets, under the beautiful name of unstrung pearls. For the greater part, the selections for the younger children should consist of entire pieces, and of such as are calculated to develop their emotional natures—the imagination, love of home and parents, kindness to dumb animals, etc.—and to give them correct rules of action. Those for the more advanced pupils should consist principally, of brief extracts containing grand and ennobling thoughts calculated to incite them to higher aspirations in life, to lead them into pure fields of English literature, and to teach them to love and reverence our great authors. In the selection of gems, poetry has the preference, for it inculcates a double beauty—beauty as thought, and beauty as composition. It delights the ear of the child as the colored pencil or illustrated book delights his eye. It is more easily committed, and, as a rule, longer retained.

All the selections should be recited in concert, and individually, from the platform.

You are aware that years ago it was almost the universal custom for teachers to set apart Friday afternoon for declamation. But the exercise in declamation differed widely from memorizing gems of thought, which I advocate. Then the pupils were permitted to commit to memory whatever they thought best. The result was, that in a majority of cases the selections contained no literary or other merit. They were made more from a desire on the part of the pupil to have something "new," or to create a laugh, than from any other cause. The time spent in committing such pieces was, in my opinion, worse than wasted, for there was nothing in them worth remembering. Their effect was to vitiate the tastes of the pupils for good literature, rather than to give them a love of it. It was not so much what the pupils memorized, as how they declaimed. In short, everything was sacrificed to declamation. In my opinion declamation, a subject almost entirely neglected in public schools of late years, is a very valuable exercise. Its tendency is to give pupils confidence in themselves; to make them more self-possessed ; and above all, to make them better readers. These worthy objects can be better accomplished by reciting "gems," than by declaiming long pieces, as was formerly the custom, for every member, even of an entire class, can recite a short extract within the time of an ordinary recitation, and each learn, from hearing the others declaim, the same selection. But important as declamation is in itself, it is secondary to the great object I desire to accomplish, viz. : storing the mind of our youth with grand and ennobling thoughts, clothed in beautiful language—thoughts that will incite them to noble aspirations in life—thoughts that inculcate virtue, patriotism, love of God, of father, of mother, kindness to dumb animals, and that give correct rules of action.

HOW TO TEACH.

At least one hour per week should be given to this literary work in all the district, grammar and high schools throughout the country.

In Cincinnati a part of this time is taken from that assigned to morning exercises, and a part from Friday afternoon. However, this is left to the discretion of the teacher.

I recommend eight lines as a fair amount for each week's work. At this rate the pupils, in passing through the district and grammar schools, would commit 2,560 lines, and in passing through the district, grammar, and high schools, 3,840 lines, which is equivalent in amount to 128 pages of one of our Fifth Readers.

It is not enough that the selections be simply memorized. Each one of them should be made the subject of a lesson, to be given by the teacher. The teacher should not only see that the pupils thoroughly understand the meaning of each word and sentence ; that they give the substance of each passage in their own language, and make the proper application of the same before requiring them to commit it to memory, but she should also endeavor, by appropriate talks, to impress upon the minds of her pupils the ideas intended to be conveyed, and to inspire them, if possible, with the spirit of the extract.

What an opportunity is here given for our teachers to impart moral instruction ; to cultivate the emotional nature of children ; to inspire them with a love of the noble, the good and the true! Such instruction must bear beautiful fruits.

After the selection has been thoroughly memorized, the attention of the teacher should be given to the elocution—to the beautiful delivery of the same. This can be well done by concert drill. The concert should be supplemented by individual recitation. If, however, for want of time, any part of the work indicated above has to be neglected, it should be the individual recitation. As I said before, declamation is secondary to the committal to memory of literary gems.

As the value of these extracts to one in after life will depend, in no small degree, upon the accuracy with which they are memorized in youth, therefore the teacher should see that they are committed to memory, word for word. In order to do this, time should be taken from the grammar or language lessons for the pupils to write the extracts from memory. This would also be an excellent practical exercise in capitalization, punctuation and spelling.

Let me say here that this literary work trains the memory ; there is, perhaps, no weaker point in the school system of our country than the frequent neglect of this absolute necessity in child culture. The memory needs as much strengthening by exercise as the muscles of the arm ; but it should be employed, as here, in storing the mind with what is *worth* remembering.

The teachers should give sketches of the lives and writings of the best and most worthy authors, at least to all the pupils above the fifth year of school, and encourage the pupils to find out for themselves interesting acts concerning authors and their writings, and

to give sketches of the same to their classmates, as I have already recommended in connection with the lessons on history. Here I recommend that the teacher, or a pupil under the advice of the teacher, read the entire piece, when appropriate, from which the extract is taken, or some other selection from the same author, as "Birds of Killingworth," by Longfellow; "Snow Bound," by Whittier; one of "Timothy Titcomb's" letters, by J. G. Holland; a story from Hawthorne's "Wonder Book," etc.

In connection with this literary work, let me urge, as I did last year at Cleveland, the celebration of authors' birthdays.

These celebrations may consist of compositions on the life of the writer, of the recitation of gems by entire classes or grades, of declamation, of singing, and of appropriate talks by teachers and friends of the schools.

Authorial-birthday celebrations interest the pupils in the writer and his works as nothing else can. They educate the whole community. The celebration of the birthdays of Whittier and Longfellow at Cincinnati, and of the Cary sisters at Mt. Healthy, has caused an increased demand for their books, not only in Hamilton County, but in other and distant parts of the country, and *every good book that goes into a family is an educational force.* It has not only multiplied the number of their readers, but that of many other of the great authors in American and English literature.

Longfellow and Whittier, names unknown to the children of Cincinnati one year ago, are now as familiar to them as those of their own playmates. Hereafter they will be looked upon by the youth of that city not only as great and noble writers, but as dear old friends whom they fondly love. To me this attachment of the children to those great and pure men is a touching and pleasing result of the celebrations.

These celebrations, from year to year, should include not only poets and prose writers, but also great statesmen and distinguished scientists and inventors.

"The poets who in song translate
Emotions they alone have read,
The patriots stern, who challenge fate,
And walk with more than mailed tread,
The sages who the truth distil—
Let these the child love if he will."

—*Joseph W. Miller.*

But we should celebrate those only who have led pure and noble lives, whose moral character and private worth will call forth the admiration of the children and set them examples worthy of imitation.

Fellow-teachers, having completed my suggestion on the methods of instruction and the scope of this literary work, I desire to call your attention for a few minutes while I present to you more fully the good that will be accomplished by its general introduction into our schools.

DIME-NOVEL READING.

One of the greatest powers for evil is the low and degrading writings our boys and girls are reading. Even educators, I fear, are not fully aroused to the terrible influence this reading is exerting upon the lives and characters of the young.

Let us look at the circumstances in which our youth are placed in regard to literature.

At the homes of a large part of them there is scarcely a book, except the text-books of the children themselves. At the homes of a majority of those remaining may be found a few books upon the parlor table, which are usually considered by the parent as too nice for the children to read. It is safe to say that very few, indeed, of our youth have access to a good home library. That child who is trained at home to a love of reading good books is the exception.

Is it any wonder, then, that our youth yield to the temptation to read the worst kinds of story papers and novels that are everywhere thrown around them? In addition to other enticements, we find near all the large school buildings of our cities, shops which keep, besides pens, pencils, and school-books, a large assortment of trashy story papers and novels. What a comment on the public schools! The vendors of these papers place those having pictures of murders and Indian outrages, etc., in the windows.

The children, attracted by these pictures, buy the papers and read the stories. They soon become intensely interested in the stories and in the slang language in which they are written. The boys and girls buy novels of the same or of a worse tendency for from five to ten cents. These are purchased and devoured, and thus by degrees is formed the habit of reading this pernicious class of writings. The children are not to blame. There is nothing in their home surroundings to counteract these evil tendencies. The schools have been standing by saying, "Don't touch," "don't touch," but doing nothing to interest the pupils in good reading.

Knowing from experience, as I do, that it is in the power of the schools to control almost entirely the reading of the pupils and to implant in them correct literary tastes, I appeal to Boards of Education, to superintendents and teachers, to take immediate and decisive steps to make this literary training in all the grades a prominent feature of school work. The only effectual way to keep the youth of our country from reading the terrible dime novel is to *interest them* in the writings of good authors, and this must be done, if at all, by the schools.

LITERATURE AS A DISTINCT BRANCH.

Under the present system the study of Literature as a distinct branch of education is not attempted till the tenth year of school, when but one in twenty is remaining in school, and I will guarantee that the present classes in the High Schools will have gathered fewer of the pearls of literature at the completion of their course than is possible with the Common School classes under the plan now in operation in Cincinnati. And it should not be forgotten that the one in twenty that takes the High School course is the one for whose welfare we need have but little apprehension. We can trust him. It is among the nineteen who fall by the wayside that we shall find subjects for our misgivings. It is here that we must exert ourselves as formers of character and developers of taste. In other words, if literature has any elevating influences, its fittest field is the Common School, for here those influences are most in demand, and here is the single opportunity of reaching a large and especially needy class of pupils.

But let us look at the matter in another light. Pupils have heretofore entered upon the study of literature in the High Schools with almost no previous knowledge of literary character or development of literary taste. The result of gem-learning, in addition to its grand object— the ennobling of the mind—will be to lay the foundation for deeper literary culture in advanced pupils,—to activate the mind in this direction, and so store it with knowledge that the commencement of this branch of education in the High Schools shall be farther advanced than its termination has been heretofore.

THE CHILDREN INTERESTED IN GEM LEARNING.

I have never known anything in school work that interested the children more than this. The interest, too, is not confined to the upper grades, but pervades all the classes, from the first year of school through the High School.

Children love to commit to memory beautiful selections, and recite them at home and at school. They love to hear of the lives and writings of good authors, and to talk about them to their fathers and mothers.

Again, these literary exercises relieve the monotony of school.

Their tendency is to give the pupils a love of school, and therefore to secure a more regular and larger attendance.

They do much to make the school strong with the people—an object that every teacher should endeavor to accomplish.

I desire to call your attention to the remarks of Mrs. Elizabeth Gale, of Mt. Healthy, Ohio, as they present the subject of memorizing selections in another light.

Mrs. Gale is the aunt of J. G. Holland. "Dear old aunt," writes Dr. Holland, "she is the only living link that binds me to the last generation." Mrs. Gale, though ninety-two years of age on the 17th of last December—Whittier's birthday—is bright and intelligent.

It was one of the happiest moments of my life when that dear old lady, then in her ninety-third year, holding in her hand a pamphlet of selections I had sent her, said to me, "Mr. Peaslee, you don't know how much good you are doing by introducing these selections into the schools. You don't know how the children will appreciate them when they are old."

What a source of consolation they will be to them then. How they will love to say them over and over again. "Why," said she, "thinking over and repeating the little pieces I learned in childhood is one of the greatest comforts left me now."

She then recited a number of selections. Among them was one entitled "To my Watch," which she learned at home when a child only four years of age. I had the piece written from her dictation, and printed, with the change suggested by Dr. Holland, of a single word:

"TO MY WATCH."

Little monitor, by thee
Let me learn what I should be;
I'll learn the round of life to fill,
Useful and progressive still.

Thou can'st gentle hints impart
How to regulate the heart;
When I wind thee up at night,
Mark each fault and set it right;
Let me search my bosom, too,
And my daily thoughts review.

I'll mark the movements of my mind,
Nor be easy when I find
Latent errors rise to view,
Till all be regular and true.

This incident needs no comment from me. It tells stronger than any words of my own, of how wonderfully the memory retains little pieces committed to its precious care in early childhood.

Yes, these beautiful selections will be remembered and will influence our children for good when the technicalities of their grammar, the abstrusities of their arithmetic, and the obscure locations of their geographies are forgotten.

Mathematical Department.

Communications intended for this part of the JOURNAL should be on separate sheets, written on one side only, and properly paged to prevent mistakes. They must be received on or before the 20th of the month to secure notice in the succeeding issue, and must be accompanied by the correspondents' names and addresses.

EXAMINATION PAPERS.

EUCLID.

1. Define a straight line. Is there any objection to the definition? State practical tests of the straightness of a ruler. Shew how rectilineal motion may be obtained from circular by linkages.

2. All the interior angles of a rectilineal figure, together with four right angles, are equal to twice as many right angles as the figure has sides.

Shew that a polygon of n sides cannot have more than $n-3$ re-entrant angles.

3. A parallelogram is double of a triangle having same base and same perpendicular height.

$ABCD$ is a parallelogram, and O a point in BD produced; OM, ON are perpendiculars on AD, CD respectively produced. Shew that the rectangles AD, OM and CD, ON are equal.

4. State Euclid's method of forming a square of area equal to that of any given rectilineal figure, and prove one of the two propositions involved.

5. Given an arc of a circle, shew how to complete the circle.

6. On a given straight line construct a segment of a circle containing an angle equal to a given rectilineal angle.

Given the base, vertical angle and radius of inscribed circle of a triangle, construct the triangle.

7. To inscribe a circle in a given triangle.

Shew that only in an equilateral triangle can the centres of the inscribed and circumscribed circles be coincident.

8. If the vertical angle of a triangle be bisected by a line cutting the base, the segments of the base are in the same ratio as the sides.

When the base BC is divided as in this proposition at D, and in Prop. A at E, shew that BD, BC, BE form an Harmonic Progression.

9. Shew that the locus of a point, whose distance from one given point is double its distance from another, is a circle.

The following solutions of problems in the January issue, had inadvertently been laid aside:

1. Solution by Mr. M. L. Nutting, Kinsale: Since each shot is 3 inches in diameter, it will require 27 cubic inches of the box. But the solid content of each shot is $\frac{4}{3}\times 3{\cdot}14159\times(\frac{3}{2})^3={\cdot}5236$ of 27 cub. in. Hence the part of the box filled is ·5236.

Solutions were also received from W. Bickell, Mountsburg, and A. H. Finch, Walter's Falls.

2. Solution by W. Bickell.

Let x=no. of persons,
y=bill of each.
Then xy=bill of company.

$$\therefore\ (x+3)(y-1)=xy=(x-2)(y+1).$$
$$\therefore\ 3y-x=3$$
$$x-2y=2$$
$$\text{or } x=12,\ y=5.$$

Solutions also by M. L. Nutting, G. L. Merrill, Uxbridge, and Lucille Hoffman, Port Hope.

3. Solution by L. A. Hoffman, Port Hope.

Direct Exchange, 1 lira, = \$·22.
7,500 " = \$1,650.
Indirect Exchange, 1 " = $1\frac{1}{8}$ francs.
$= \dfrac{1\frac{1}{8}}{26}$ £
$= \dfrac{1\frac{1}{8}}{26}\times 4.95$ \$
7,500 " = \$1,606.37$\frac{1}{52}$;
and difference = \$43.62$\frac{51}{52}$.

Solutions also by A. H. Finch, G. R. Merrill, M. L. Nutting, and W. Bickell.

4. Solution by W. Bickell.

$\frac{2}{3}$ of Investment — 1,200 = capital at end of 1st year.
$\frac{9}{4}$ " " — 3,000 = " " 2nd "
$\frac{27}{8}$ " " — 5,700 = " " 3rd "
$\frac{81}{16}$ " " — 9,750 = " " 4th "
= 4 times investment.
∴ Investment = \$9,176$\frac{8}{17}$.

Solutions also by M. L. Nutting, G. R. Merrill, A. H. Finch, and L. A. Hoffman.

5. Solution by M. L. Nutting.

Let x=no. of men, y=no. of women.

Then $4x$=no. of pence each man pays,

$3y$=no. of pence each woman pays.

$\therefore\ 4x^2+3y^2$=total amount paid$=292$;

or $y^2=97-x^2+\dfrac{1-x^2}{3}$.

Now x and y are integers; $\therefore\ \dfrac{1-x^2}{3}$ is an integer $=m$ say.

Hence $1-x^2=3m$, or $x=\sqrt{1-3m}$, and $y=\sqrt{96+4m}$, $m=-8$ gives integral values of x and y, viz., $x=5$, $y=8$.

8. Solution by W. Bickell.

$$(a^2-b^2)x^2-(a+b)\frac{c}{d}x-(a-b)(2c+ad)\frac{1}{d}x+(2c+ad)\frac{c}{d^2}=0.$$

$$\therefore\ (a+b)x\left\{(a-b)x-\frac{c}{d}\right\}-\frac{2c+ad}{d}\left\{(a-b)x-\frac{c}{d}\right\}=0.$$

$$\therefore\ \left\{(a+b)x-\frac{2c+ad}{d}\right\}\left\{(a-b)x-\frac{c}{d}\right\}=0.$$

$$\therefore\ x=\frac{c}{d(a-b)},\ \text{or}=\frac{2c+ad}{d(a+b)}.$$

Solution also by M. L. Nutting.

9. Solution by M. L. Nutting.

Let C be the middle of the town; A and B the bridges; CD the sewer; and DH the additional drain. Since DH bisects the angle CDA, $\therefore\ CH:HA=CD:DA$.

Likewise $AC:CB=AD:DB$.

Let $CD=x$ chains; then $DB=x-11$, $HC=\frac{2}{3}x$,

$BC=\dfrac{x^2-5x-66}{9}$. Hence

$$9\left\{\frac{x^2-5x-66}{9}+\frac{2x+12}{3}\right\}-54=\frac{2x^2+12x}{3}$$

$$\therefore\ x^2-9x=252,\ \text{or}\ x=21.$$

Hence $AC=16$ and $BC=30$.

PROBLEMS FOR SOLUTION.

1. A stake one inch in diameter is set upright on a plane, and a cord one mile long is wrapt about the stake. A man takes the end of the cord, and walks about the stake until the cord is unwound, keeping it tight. How far does the man walk, the thickness of the cord being neglected?

W. Bickell, Mountsburg.

2. To do a work A requires twice as long as B and C working together, and B three times as long as A and C working together If $72 were paid for the work, and the three men work together, how much ought C to receive?

T. W. Potter, Ameliasburgh.

3. Suppose that at the north corner of a square field stands a poplar tree, in the eastern boundary line an apple tree, in the western boundary line a pear tree; the two last trees 35 chains asunder; the distance between the poplar and apple is an arithmetical mean distance between those of the apple and pear, and pear and poplar. Within the compass of these three trees mathematicians agree to hide a *bone* in such a position that were straight lines drawn from it to each of the trees the lines so drawn will form angles at the *bone* severally containing a number of degrees in exact proportion to the number of chains in the opposite sides. Due south from the poplar, at a distance from it equal to that of the poplar and apple, is a fountain, whose distance from the eastern corner of the field is equal to that of the pear and apple, and from the western corner a distance equal to the pear and poplar. Required the course and distance from the fountain to the *bone*.

4. A, B, and C meeting once betimes, and it being noon they did agree,

The two who had the fewest dimes should have their dinners free,

And the one who had dimes the most should for their dinners pay the host.

Now, when they counted it was found, that B had twice as many dimes

As A, which made him look profound, and count them over three times,

And B, comparing his with C, found C had twice as many as he.

Then C for their dinners had to pay, which was 20 dimes for three,

And said he would do it every day, till all their dimes should even be,

When all theirs then put together would buy *three* eagles of no feather.

Now tell me all who can and try, how many eagles would all this money buy?

5. Required the three least numbers which, if divided by 20, shall leave 19 for a remainder, but if divided by 19 shall leave 18, if divided by 18 shall leave 17, and so on, always leaving one less than the divisor to a unit.

6. Required the sides of a right angled triangle which shall contain the greatest area under the shortest perimeter when the square of the area is equal to the product of the three sides.

7. Required a triangle such that all the inscribed rectangles shall have equal primeters.

Brampton.

Solution of "A Celebrated Problem" which appeared in the Journal a year ago, by Mr. J. J. Parker, of Truro, N. S.

Let BE, CD, the bisectors of $\angle s\ ABC$, ACB, be equal. *Then, the triangle ABC is isosceles.*

FIRST SOLUTION.

$\because\ \angle BDC > DCA$ (I. 16), *i. e.*, than $\angle DCB$, $\therefore\ BC > BD$ (I. 19); $\therefore$ the bisector BE cuts DC in a point F nearer D than C (Ex. 27, p. 118); $\therefore\ FC > \frac{1}{2}DC$, *i. e.* than $\frac{1}{2}BE$; $\therefore$ line joining C and middle of BE, which $>$, bisector FC (Ex. 27, p. 118), also $> \frac{1}{2}BE$; $\therefore\ \angle ACB$ is acute (Ex. 9, p. 56). Similarly $\angle ABC$ can be shewn to be acute. Now, if $DB < EC$, make $DG=EC$, and join G, C. Then, $\because\ DC, CB, = EB, BC$, but $DB < EC$, $\therefore\ \angle DCB$, *i. e.* $\angle DCE < \angle EBC$, *i. e.* $\angle EBD$ (I. 25); $\therefore\ \angle BEC > \angle CDB$ (I. 32); $\therefore\ BE, EC, = CD, DG$, but $\angle BEC > \angle CDG$; $\therefore\ BC > CG$ (I. 24). But $\angle ABC$ is acute; $\therefore\ \angle GBC$ is obtuse, and $\therefore\ > \angle CGB$ (I. 17); $\therefore\ GC > BC$ (I. 19)—an absurdity. $\therefore\ DB$ not $< EC$. Similarly it can be proved to be not greater. $\therefore\ DB=EC$, and $DB, BC, CD, = EC, CB, BE$; $\therefore\ \angle ABC = ACB$ (I. C); $\therefore\ AB=AC$ (I. A). *Q. E. D.*

SECOND SOLUTION.

If $\angle ABC < \angle ACB$, then $\angle FBC < \angle FCB$, and $\angle FEC < \angle FDB$. Make $\angle EBG = \angle DCB$, and $\angle BEG = \angle CDB$. Then, $\angle EGB = \angle DBC$ (I. 32). Join C, G, and produce AC to H.

In $\triangle s\ BDC$, BEG, $\because\ DC=BE$, and $\angle s\ BCD$, BDC, $= \angle s\ GBE$, GEB, $\therefore\ BC=BG$ (I. B.); $\angle BCG = \angle BGC$ (I. A); $\therefore\ \angle BGC > BCH$. and $\therefore\ >$

$\angle CBA$ (I. 16), and $\therefore > \angle BGE$ — an absurdity. $\therefore$ $\angle ABC$ not $< \angle ACB$, and can be proved not greater. $\therefore \angle ABC = \angle ACB$, and $\therefore AB = AC$ (I. A). Q. E. D.

EXERCISE.—Shew that DC produced must divide angle GCE.

SUBSCRIBER, L'Orignal.—The expression $\underline{|6}$ is read "factorial 6," and means $1\times2\times3\times4\times5\times6$.

D. M. CHISHOLM has sent in a correct solution of the problem, "Three Gambles, &c.," which appeared in the JOURNAL of November last.

Practical Department.

LAWS OF ACQUIRING AND RETAINING KNOWLEDGE.

BY JAMES L. HUGHES.

1. The *sources* of acquired knowledge are books, men, and things.

2. The *methods* of acquiring knowledge are, in the reverse order of their teaching power: reading, hearing, seeing, and experimenting or doing.

3. *General Rule.*—Independent of differences in brain power, the *readiness* with which knowledge is acquired depends on *the attitude of the mind towards our sensations.*

4. The *rate* of learning depends in each individual on the *intensity of attention* paid to the subject.

5. The *clearness* of our conceptions depends on:

(*a.*) Attending to only *one thing at a time.*

(*b.*) The *source* from which we receive knowledge; books, men, or things.

(*c.*) The *method* of learning: reading, hearing, seeing, experimenting or doing.

6. The *depth* of an impression is influenced by the *time* we devote to a subject. Dwell. Give a thought time to be photographed.

7. The *permanence* of conceptions depends on:

(*a.*) The condition of health of body and brain.

(*b.*) The *clearness* of our conceptions.

(*c.*) Intensity of attention; modified by interest, pleasure, or pain.

(*d.*) *Repetition*; to ourselves and others; in concert or individually.

(*e.*) *Association of Ideas.*—One idea suggesting another. This may be regarded as the foundation of memory. It depends on:

1. *Similarity* in part or in whole, in appearance, shape, color, sound, etc. A single feature, or tone, or movement serves to recall a friend residing in New York, and immediately a thousand ideas connected with the friend or the city he lives in flash in succession through the mind.

2. *Contrast.*—Youth—old age; cradle—grave; palace—cottage, etc.

3. *Contiguity*, (*a.*) of *time*; (*b.*) of *Place*. *Time.*—We say a thing occurred about the time of the famine, the great heat, the severe frost; when James was born, or Emma married; during Lord Elgin's time, or Lord Dufferin's, etc. *Place.*—Start from the home of your childhood. How one object will suggest another as you sweep along in any direction in imagination! The store, the blacksmith's shop, the school house, the church, the hill, the creek, etc., follow each other in their proper order, the one being suggested by the other.

ELEMENTARY ARITHMETIC.

READ BEFORE THE LANARK TEACHERS' ASSOCIATION; BY I. J. BIRCHARD, B.A., PRINCIPAL PERTH COLL. INSTITUTE.

I conceive education, in the true sense of the word, to be, the development of the natural powers of the mind; whoever aids that development is an educator. I thus make a careful distinction between communicating facts and educating—between a mind possessed of knowledge and an educated mind. In the former case the pupils are mentally paupers, and the teacher a dispenser of charity; in the latter the pupils are labourers sowing the seeds of a future harvest, while the teacher watches over and directs their efforts, and takes care that wheat—not tares—is sown. The former mind is a storehouse which contains nothing except what is placed in it; the latter is fertile soil ever producing fresh harvests.

In this brief essay on teaching Elementary Arithmetic, I propose to show how to carry on this educating process simultaneously with the acquirement of knowledge. In educating a child, the teacher and nature are co-workers; nature furnishes the programme which the teacher must faithfully carry out, if he would secure a symmetrical and not a distorted result. The young mind rapidly gains both knowledge and power from observation and drawing conclusions therefrom; it is the part of a judicious teacher to direct his pupils to the making of profitable observations and to the drawing of correct conclusions. In teaching arithmetic, *i. e.*, increasing a pupil's knowledge of number and his power to reason about number, two principles should be kept constantly in view:

(1) A knowledge of number in the abstract must be preceded by a knowledge of number in the concrete.

(2) Each new principle must be clearly connected with, or rather grow out of, what is already quite familiar.

A child first learns to distinguish a single object from more than one; then to distinguish a group of two, then three, &c., to ten; which requires nearer observation, and is a greater amount of knowledge than most persons imagine. With this amount of knowledge at five years of age he enters a public school, and if his knowledge of arithmetic is to be increased, whether by formal teaching or otherwise, the increment must be added to 'ten'; any attempt to build from 'eleven' will certainly be a failure.

In most cases, however, the pupil will obtain sufficient exercise in counting from play and other casual sources, leaving to the teacher the task of translating his knowledge into a new language, that of symbols. At this stage it is quite sufficient to familiarize the pupil with the forms, in figures, of the numbers with which he is already familiar. The *theory* of notation is as much above his comprehension as the moon is beyond his reach.

Just as the idea of number is first obtained from 'things', and then represented by symbols; so must the operations of addition, &c., be first performed on visible, tangible objects, and then the same operation performed with symbols.

Such is education in the full sense of the word; a slow process for acquiring the ability to pass examinations, perhaps, but the only way to promote brain growth, or to increase the mental powers.

I proceed now to some practical examples of the preceding theory.

The multiplication table is the first grand difficulty which the young mathematician has to encounter. Its difficulties may be greatly lessened, and valuable mathematical training may be given,

by such methods as the following:—Place several groups of the same number of objects on the table; ask the pupils to count each group, and the number of groups, then the total; also the reverse operation, *i. e.*, take a number, twelve, and ask them to arrange them in groups of two, three, four, or six each, and at the end of each operation require the result to be expressed in words.

Such training prepares the way for reduction, which is the foundation of all the future reasoning in arithmetic. When a pupil has properly mastered the tables of the weights, measures, &c., and has been taught the meaning of the operations of multiplication and division, as previously indicated, he will have little difficulty with the compound rules and reduction. A few of the simpler weights and measures are necessary, a carpenter's rule or a tape-line being the most useful. Measure off a few feet on the blackboard, marking the end of each foot, and ask for the number of inches. Give no rules; if the pupils cannot answer, let them really count the inches on the tape-line, carefully observing that twelve inches is repeated as many times as there are feet, and then ask for the same to be done with figures. Then reverse the operation, giving a number of inches to be changed into feet; and for a few times allow them to mark off the 'twelves,' and then count how many twelves there are. Proceed in the same way with the other tables, always using numbers and denominations with which the pupils are familiar; and require such operations to be repeated until the connection between the figures on the slate and the things signified is perfectly familiar.

DISCONTENTED TEACHERS.

There appears to be a general discontent among the teachers of this country. So, at least, we infer from the tone of communications published in the educational journals. The other day we made a list of complaints contained in about a dozen of these periodicals.

It is not necessary to mention the chronic complaint of insufficient income, because that is common to the whole human race. We have met with all sorts of people in our pilgrimage through this vale of tears, but we have rarely encountered any one who had *quite* money enough. Passing this by, we find our teachers complaining of the following things:

1. Their profession, they say, has no prizes. A soldier can win promotion as well as glory, and can come at last to be one of the chief personages of the country. A man of business can acquire wealth, and surround his family with elegance and safety. An author can make a "hit," and soar at once into fame and fortune. For the teacher there is no outlet, no issue, no reward. For the few prizes which the profession might claim, the presidentships of colleges, even these are almost always bestowed upon members of another profession.

2. The teacher has no hold upon his place, and can acquire none, no matter if he is the best teacher in the universe. He is no better off in this respect than the politician, who may at any moment, and without a moment's previous notice, receive a note in a yellow envelope, turning him out of a place he has held twenty years.

3. The teacher is compelled to obey his inferiors. The average member of our school committee, say our educational journals, is not equal in knowledge and capacity to the average teacher.

This assertion might be questioned; but probably the average school committee does not know as much about *teaching* as the teachers whom they elect, direct and dismiss.

4. Holding his place at the mercy of the school committee, the teacher cannot speak his mind freely even on subjects relating to the management of the school. He must *please*, he must flatter them by acquiescence. He can be sincere, direct, and wise only at the risk of his position.

5. He has no standing in the community. Or, as one of our journals has it, "In a small village he is a man of some importance, but in a large city, the teacher has virtually no social standing."

These are the principal complaints, and there is some cause for them, except, perhaps, the last. If there is any circle in the city where a good teacher would not be held in honor both for his own and for his profession's sake, the discredit belongs to the circle, not the teacher.

Our great lack is a better organization of the whole teaching service, so as to keep out the incompetent, and to enable the competent to gain due promotion and reasonable emolument. Either this will be done, or the common school system will gradually decline in efficiency.

In an ideal state, teachers would constitute an order of nobility, and would consist of the very choicest of the inhabitants. The chief business of each generation is to rear and educate the next, and civilization progresses when the best of the present generation does the greater part of the work for the next. How to bring the best minds to bear upon the mass of mind—that is the sublime problem of republican statesmanship.

So many of our readers expect to become teachers that they may as well begin to think of these things.—*Youth's Companion.*

LANGUAGE.

The purpose of the lessons in language is to develop the power of oral and written expression, and can only be accomplished by abundant exercise in the use of language as the expression of thought. In the three lower grades, the work will mainly be done by the pupils while at their seats. The inspection and drill should be in connection with the reading exercises. The fourth grade is entitled to special time for this exercise, and the teacher should not fail to so provide in arranging the programme.

The pupils have already learned the nature of declarative and interrogative sentences, and these terms may be given to them now. Teach the imperative and exclamatory sentence. Teach the pupils that what we talk about in a sentence is the subject, and that which we say about it is the predicate. Give a list of subjects, as fence, field, John, road, tree, Mary, carpenter, etc., and require the pupils to build sentences. The teacher should state the kind of sentence to be built, whether declarative, imperative, etc. Give a list of predicates, as run, play, sing, etc., and require certain specified kinds of sentences to be built. Give rows of promiscuous words to be arranged into certain specified kinds of sentences. Teach the pupils to combine sentences by having them make two or more statements about an object, and then unite them in one expression. Continue the use of pictures by requiring the pupils to write stories about them. No doubt the pupils will at first, and for some time, require much assistance, which may be given chiefly by suggestive questions. As pupils advance, more particular descriptions may be brought out, and the wider play of the imagination secured by judicious questioning. Read once or twice carefully to the pupils, a story or anecdote, and require them to reproduce it in their own language. A great deal of work of this character should be given. The reading should not be given at the time the lesson is assigned, but when the pupils commence to prepare the language lesson. Teach the pupils of this grade to write letters, and make letter-writing a frequent exercise through the entire year. The pupils should understand the meaning and use of the following parts of a letter: heading, address, salutation, body, subscription. Teach the above parts, their position, punctuation, and the use of capital letters. Give the pupils drill in writing each part, appropriate for a business letter, a friendly letter, a letter to a brother, sister, etc. In requiring the pupils to produce entire letters, definitely specify the nature of the work. The following will serve as illustrations:—

1. Write a letter to your father, who is supposed to be away from home, stating three things that have occurred during his absence,

and saying that he (the father) is expected home on a certain day, and that the buggy (or sleigh) will be at the depôt of a certain place to meet him.

2. Write a letter to a schoolmate, describing a present received, asking the loan of a book, and stating that you will visit him on a certain day.

3. Write a letter to your parents, describing your studies in school.

4. Write a letter to your cousin, inviting him, or her, to visit you.

There is room for the teacher to exercise a great deal of ingenuity in designating the character of letters to be written. The pupils should be required to produce short compositions occasionally. In assigning this work, definitely specify its character. Some attention may be given to technical grammar in the course of the year; but it should be remembered that the main object is to teach pupils the practical use of language. In considering the parts of speech and their properties, develop the ideas of pupils in reference to a new point, by conversation with them, and by written work on the black board. Lead the pupils to make their own definitions, as far as possible. The pupils' work outside of the recitation, should always be the preparation of some written matter to be brought to the next recitation for inspection and criticism.—*W. A. Hosmer in Indiana School Journal.*

THE PRIMARY CLASS.

NUMBERS.

Counting.—First let the pupils be taught to count as far as ten, by using the numeral frame, pencils, their fingers, marks on the blackboard and other objects.

Figures.—Teach the pupils to count out groups of objects to represent each number, and teach the figure that represents the group. Let the pupils count *one ball, one finger, one mark*, then learn *figure* 1. Then count in groups *two balls, two fingers, two pencils, two marks*, etc., and learn figure 2. Now lead the pupils to see that *two* is equal to *one and one*, or *two ones*; that *three* is equal to *one and one and one*, or *three ones*, or *two and one*; that *four* is equal to *four ones*, or *three and one, two and two*, or *two twos*. Proceed in a similar manner to teach each number and figure as far as nine.

To give the pupils additional exercises for learning how many objects each figure represents, let them count as many balls or other objects, or hold up as many fingers as the given figure represents. They may be allowed, also, to clap their hands three times for figure 3, four times for figure 4, and so on, as another mode of showing that they understand the value of the numbers.

Figures in Groups.—Figures should be taught as symbols of numbers counted, and in groups corresponding to the forms by which the numbers are represented. The first group should contain the figures from 0 to 9; the second group from 10 to 19; the third group, 20 to 29, and so on to 100. Counting objects should precede each group, and extend beyond the highest number of the group. No succeeding group should be commenced until the preceding one has been thoroughly learned.

Adding.—The pupils may be taught to *add* balls on the numeral frame by *ones*; then to *add* figure 1s in a column on the blackboard; then to add a column of 1s on their slates. Subsequently teach them to *add* balls by *twos*; then to add a column of 2s on the blackboard: then on their slates. Proceed in the same manner with *threes*. Afterwards the pupils may be taught to add 1s and 2s in the same column; then 1s, 2s and 3s in the same column. A variety of exercises should be introduced by which the pupils will be required *to add one* to each number from one to twenty. As far as practicable, objects should be used by the pupils during the first steps of these lessons.

Subtracting.—By means of the numeral frame teach the pupils to count backward from ten, thus: 10, 9, 8, 7, 6, 5, 4, 3, 2, 1, 0. Let them also learn, by the use of the numeral frame and of other objects, *to take one* from each number from one to ten, and to tell how many remain.

Reading and Writing Figures.—Care should be taken in the reading of *Arabic figures* from the blackboard. as far as 100, and the writing them on slates, as far as 20, that the instruction be given in appropriate steps, that the numbers be arranged in such groups as will aid the pupils in learning them; also that each group be well learned before a new one is presented. Mere rote exercises should not be allowed, either with or without the numeral frame. —*N. Y. City Manual.*

HOW TO GET AN EDUCATION.

1. Resolve to have an education.

"Where there is a will there is a way." Says Burke: "The lovers of wisdom will be wise." Matthews says: "If a person does not obtain an education, it is a proof that he did not intend to have one."

2. Go to school if you can.

A person can learn better at school than he can at home. At school, study is business. In study, method is everything. The best teachers can show the best methods.

3. Use the spare moments of time, when not at school, in gaining information.

"Elihu Burrit acquired a knowledge of eighteen languages by improving fragments of his time while working as a blacksmith."

"Franklin became one of the wisest men of his age, by studying during the fragments of time, while engaged as a printer."

4. Give undivided attention when you study.

"Genius," says Helvetius, "is nothing but continued attention." Dickens says: "The one serviceable, safe, remunerative, attainable quality in every study, is the quality of attention. My own invention, or imagination, would never have served me as it has but for the habit of patient, daily, toiling, drudging attention."

5. Be thorough.

Sir Edward Sugden being asked the cause of his rapid rise in his profession, replied that "when he learned a thing once, he learned it forever.

6. Let no day pass without learning one new truth.

The largest fortune is made up of cents; the highest mountain is composed of grains; the widest ocean is formed of drops; the greatest store of learning consists in individual truths.

7. Do not get discouraged.

"A solid character is not the growth of a day. The mental faculties are not developed without long and laborious culture."

"No one knows how much he can do till he has tried."

It is not talent that men lack, but purpose.

8. The three steps in gaining an education are intention, attention, retention.

You must intend to get it; you must attend while getting it; you must retain as you get it.

Dr. Arnold declared that "the difference in boys consists not so much in talent as in energy."

Sir Thomas Fowell Buxton says: "The great difference between men, between the great and the insignificant, is energy, invincible determination, an honest purpose once fixed, and then death or victory."

J. A. Cooper, Principal State Normal School, Pa.

Ornamenting the School-Room.—A few cultured women employed as teachers in our country had, previous to the last year, introduced pictures into their school-rooms. So pleasing was the effect produced upon all parties interested, that I resolved last autumn to devise a plan of placing pictures in all the school houses of the county. As the plan succeeded so well and cost so little, I give it for the benefit of others who may feel an interest in æsthetics. I sent to the city for one hundred neat chromos, 10x12 inches, which cost only a trifle at wholesale prices, and I carried several of these with me wherever I went in my work of visiting schools. I proposed to present one of these pictures upon condition that the teacher and pupils would promise at least one more for their school-room. The proposal accepted, a committee of pupils, ladies and gentlemen appointed by the teacher, would make choice of a picture, which I then presented to the school. The interest in the picture flew in all directions, and in many places they anticipated the Superintendent's coming by performing their part of the contract in advance. The method adopted to accomplish

this was as follows: The teacher furnished one picture, and gave permission to each family, sometimes to each pupil, to furnish one. In rural districts where pictures were not plenty, some pupils clipped them from magazines and almanacs. I was pleased to see, even in these cases, the ingenuity and taste in framing them, using as they did for this purpose wood, leather, paper, corn-stalks, shells, autumn leaves and ferns. In other communities cultivated mothers, yielding to the earnest appeals of their children, selected from the parlors their finest pictures and their purest mottoes for the school-room. These beautiful pictures and mottoes paid their cost in a single session. They strengthened in the pupils a love of he beautiful, a love of cleanliness, a love of order, and a love for their own school. The walls and windows of the school-room were kept clean and clear of cobwebs, and scrapers and mats were placed at the door. Cleanliness of person and neatness of attire is a marked characteristic of most of the teachers and pupils of our schools. The inspiration produced by æsthetic culture has been caught by many of the less fortunate pupils, and is shedding sunshine into their humble homes.—*Supt. Wade.*

NEEDED REFORMS.

We should stop telling the boys that they are to become clerks, lawyers, doctors, preachers, judges, governors, congressmen, presidents, etc. Let them understand that these places are overcrowded now, and that the great majority of them, whether rich or poor, willing or unwilling, must earn their bread with their hands guided by their brains.

In teaching spelling we may save time by teaching only such words as the pupils can and will use intelligently. Reading should be taught for its practical use in enabling the pupils to interpret the thought symbolized on the printed page rather than for elocutionary display. Penmanship should be taught by means of free movements, so that the pupil may be a rapid business writer before leaving school, and not required to spend the writing hour in mere imitation of copies with a slow finger movement. In arithmetic we may make it practical, and yet save much time, by leaving out in an elementary course such things as "casting out the nines," "arbitration of exchange," "circulates, or repretends," "finding the true remainder," etc.

Instead of so much technical grammar, let us teach composition and the practical use of language. In teaching geography, take less time for teaching unimportant details, and more time in teaching the sources and qualities of the raw materials used in manufactures. In testing a pupil's knowledge of an art, we should require him to do something, rather than ask him to tell how it should be done. In geometry, we can require pupils to solve problems with the ruler and compass, as well as to demonstrate. We can also show the application of this science to the making of working drawings. If these suggestions are heeded, we shall find some time for the natural sciences and drawing. These bring the student into contact with matter in form and substance. It is with the form and qualities of matter that we are all obliged to wage an unremitting warfare, and thus demonstrate our fitness to survive or to be crushed to dust. The preparation of food, raiment, and other necessaries and luxuries, requires the change of matter or qualities, or both. Hence, the sciences above named have pre-eminently a technical tendency.—S. S. Thompson, *in the Educational News-Gleaner.*

PROMOTION EXAMINATION PAPERS IN SOUTH ESSEX, MARCH 30TH AND 31ST, 1881.

D. A. Maxwell, Inspector.

EUCLID.

FIFTH CLASS—TIME, TWO HOURS.

Values.

10 1. Enumerate the propositions employed in the 16th prop. Bk. I.

15 2. ABC is an equilateral triangle; from D, the middle point of BC, DE is drawn perpendicular to AB; shew that BE is $\frac{1}{4}$ of AB.

15 3. If the equilateral triangle described on one side of a triangle be equal to the equilateral triangles described on the other two sides of it, the angle contained by these two sides is a right angle.

10 4. Prove either first or second part of Prop. 26, Bk. I.

15 5. If the right lines drawn from the extremities of the base of the triangle to meet the opposite sides, and making equal angles with the sides, are equal, the triangle is isosceles.

5 6. Prove Prop. 6, Bk. I.

15 7. If one angle C of a triangle be equal to the sum of the other two, prove that the side AB is equal to twice the line joining C with the middle point of AB.

15 8. $ABCD$ is a parallelogram, and EF the middle points of AD and BC respectively; shew that BE and DF will trisect the diagonal AC.

ALGEBRA.

FIFTH CLASS—TIME, TWO HOURS

Values.

12 1. Represent the sum of

$$\frac{1}{x(x-y)(x-z)},\ \frac{1}{y(y-z)(y-x)},\ \frac{1}{z(z-x)(z-y)}.$$

12 2. Simplify the expression

$$\frac{a-\sqrt{b}}{c+\sqrt{d}}+\frac{a+\sqrt{b}}{c-\sqrt{d}}.$$

12 3. Investigate a rule for finding L. C. M. of two algebraic expressions.

13 4. If $\frac{1}{b}+\frac{1}{c}=\frac{4}{a}$, shew that

$$(a+b-c)^3+2(b+c-a)^3+(c+a-b)^3=2(b+c)^3.$$

12 5. Prove the equation $a^m \times a^n = a^{m+n}$ is true when m and n are integral and positive.

14 6. Factor $a^{2m}-3a^mc^n+2c^n$.

12 7. Solve

$$\frac{4x+7}{4x+5}+\frac{4x+9}{4x+7}=\frac{4x+6}{4x+4}+\frac{4x+10}{4x+8}.$$

12 8. The sum of the digits of a number is 9; if the digits be inverted the difference between the two numbers is 9, find the number, the right hand digit being the greater.

WRITTEN ARITHMETIC.

FIRST CLASS—TIME, TWO HOURS.

Values.

4 1. Write in words, 206, 294, 180, 344.

9 2. Begin with 245, and write the next 6 numbers obtained by counting by 9. Find the sum of the 7 numbers.

15 3. A person bought 348 sheep from 3 farmers; he bought 122 from the first, 97 from the second; how many did he buy from the third?

15 4. If two persons start from London and travel in the same direction, the first going 3040 miles, and the second going 1054 miles, how far is the one ahead of the other?

15 5. Find the sum of \$28.10, \$96.25, \$71.89, \$32.56, and \$67.43.

25 6. Paid \$6,428 for a farm, \$2596 less for a house, and \$596 less than the price of the house for the furniture; what did all cost?

5 7. What numbers do IX., VI., XIX., XX., XVII. stand for?

12 8. Write figures for one hundred and ten, nine hundred and ninety-nine, sixty-three, four hundred and two.

SECOND CLASS—TIME, TWO HOURS.

5 1. Write in words, 17017, 6043, 30090, 10010, 1100001.

10 2. A man bought a farm for \$7500; he gave in payment 26 horses at \$90 each, 30 cows at \$43 each, the balance to be paid in three equal payments. How many dollars will be in the last payment?

10 3. A person fed 45 cows by giving each one 12 lbs. of hay. How many could he have fed by giving each one only 9 lbs.?

10 4. If a person divide 4684 apples among 222 sheep, how many will each get?

15 5. If 24 men can do a piece of work in 25 days, in what time could they do it with the aid of 16 more men?

15 6. Bought 136 animals for $8,568, and sold 93 of them at $75 each and the balance at cost. How much did I gain?

15 7. Among how many families can 9,502 loaves of bread be divided so that each family will get 46 loaves, except one family which is to get 72 loaves?

20 8. Two travellers, A and B, meeting on a journey, found that the whole distance both had travelled was 3840 miles, and that A had gone 600 miles farther than B; each had travelled 27 days. How far had B gone per day?

THIRD CLASS—TIME, TWO HOURS.

10 1. Fence boards being 12, 14, 16 feet long, what is the shortest fence that can be built exactly by each kind of boards?

15 2. A and B are travelling in the same direction; they are 2 miles 18 perches apart. B gains on A 8 perches in 24 perches that A travels. How far must B travel before he overtakes A?

15 3. A person having 2496 bushels of potatoes, and desires to put them in pits holding respectively 12, 16 and 24 bushels, and having an equal number of each sized pits. How many pits altogether will there be?

4 4. Define Multiple, Measure, Fraction, Denominator.

15 5. A, B, C and D dine at a hotel; A and B each pay $\frac{1}{3}$ less than C, D pays $\frac{1}{3}$ more than C; the bill is $2.20. Find how much each must pay.

11 6. Write avoirdupois weight and reduce 3,000 lbs. troy weight into cwt., grs., etc., avoir.

10 7. A block of land is 4 miles long and 3 miles wide. What is it worth at $25 an acre?

20 8. How many houses, each with a frontage of 22 ft. 4 in., can be built on a terrace having a frontage of 280 ft. 8 in., allowing for a roadway at each end of 12 ft. 8 in., and a space of 8 feet between every two houses?

FOURTH CLASS—TIME, TWO HOURS.

15 1. An army having lost $\frac{1}{6}$ of its numbers in killed and wounded and 4,000 prisoners was reinforced by 3,000 men; it then lost $\frac{1}{4}$ of its number and had 18,000 men left. Find original number.

12 2. State the difference between pure and mixed circulating decimals. What fractions are convertible into terminating decimals? Find the difference between $\frac{8}{9}$ and $\cdot\dot{9}$.

15 3. Three lines of paling run side by side for a distance of 150 yards. The upright posts are respectively $2\frac{1}{2}$, $3\frac{1}{3}$, $4\frac{1}{6}$ feet apart. How often can a person walking outside and looking across this line of paling see three posts in a line?

15 4. Define solar year. How does it differ from the common year? How is the confusion which would arise from this difference obviated?

10 5. Find the cost of carpeting a room 13 ft. 6 in. long and 9 feet wide with carpet 27 in. wide, worth $1.25 per yard.

10 6. If $4\frac{5}{8}$ of tea cost $23\frac{3}{8}$c., what will $8\frac{3}{4}$ lbs. cost?

13 7. A can do as much work in 3 days as B can in 4 days, and B as much in 6 days as C in 5 days: in what time can C do as much work as A can do in 12 days?

10 8. Three times a certain number plus 10 equals four times the number minus 15. Find the number.

FIFTH CLASS—TIME, TWO HOURS.

8 1. Show that a number which will divide each of two others will divide their difference or their sum.

15 2. A buyer expended equal sums of money in buying oats, rye, and corn; he cleared 4 per cent. on the oats, 7 per cent. on the rye, and lost 3 per cent. on the corn; the whole amount received was $3,000. How much did he invest in each kind of grain?

8 3. Define Foreign Exchange, Intrinsic Par of Exchange, and Course of Exchange. Explain what is meant by the balance of trade being against a country.

15 4. Debentures are issued at 8 per cent. for 10 years for raising $6,000, how much must be collected in tax each year to form a sinking fund to redeem the debentures, principal and interest at maturity?

15 5. What sum of money must be saved annually by a young man of 21 that when he is 50 he may have $25,000, the money being invested at 6 per cent. compound interest?

20 6. A merchant made a mixture of wine at 28s. per gallon with brandy at 42s. a gallon: he found that by selling the mixture at 35s. a gallon he gained 15 per cent. on the price of the wine and 20 per cent. on the price of the brandy. In what ratio were the wine and brandy mixed together?

9 7. Investigate a method for finding the cube root of a number.

10 8. The remainder in dividing any number by 9 is the same as in dividing the sum of its figures by 9. Prove this.

MENTAL ARITHMETIC.

FIRST CLASS—TIME, TWENTY MINUTES.

1. A farmer sold 20 bushels of peas, 30 bushels of turnips, and 40 bushels of barley; how many bushels did he sell?

2. In one class there are 12 boys and 4 girls, in another 3 boys and 8 girls, how many pupils in the two classes?

3. A boy had 90 cents; he paid 14 cents for candy, 25 cents for apples, and 30 cents for a book; how many cents had he left?

4. Bought a sleigh for $20, paid $10 for a new box for it, and $6 for painting it. How much will be gained by selling it for $36?

5. In one field there are 20 cows; in another field 5 less than in the first field; how many in both fields?

6. A boy bought 15 marbles; then one boy gave him 12, another 9, and another enough to make up his number to 45; how many did the last boy give him?

7. Bought some eggs for 55 cents; how much will I gain if I sell part of them for 32c and the rest for 40c?

8. Suppose John is 26 years older than James, and William 4 years younger than John, which is the older, James or William, and by how much?

SECOND CLASS—TIME, TWENTY MINUTES.

1. It is 44 years since the rebellion in Canada, and 14 years since Confederation, how many years between the rebellion and Confederation?

2. If *A* earns 12 cents a day, *B* 15 cents a day, and *C* 20 cents a day, how many cents will the three boys earn in 5 days?

3. Bought a horse for $80; gave in payment 6 tons of hay at $9 a ton, and the balance in cash; how much cash was given?

4. A drover bought 28 sheep at $3 each, and 5 cows at $26 each, what did the whole cost?

5. Multiply 18 by 3, subtract 50, add 12, divide by 8, multiply by 7; what is the result?

6. If 5 boys get 7 apples each out of 50 apples, and the rest be divided equally among 5 girls, how many will each girl get?

7. If 20 sheep be bought for $90, at how much each must they be sold that the buyer may double his money?

8. A man bought an equal number of pigs and calves for $84. Each pig cost $3 and each calf $4; how many of each did he buy?

THIRD CLASS—TIME, TWENTY MINUTES.

1. If a bin of oats will last 20 horses 10 days, how many horses must be taken away that it may last the remainder 20 days.

2. Divide 3 bushels of wheat into parcels containing 3 lbs., 4 lbs. and 5 lbs. respectively, so that there will be an equal number of parcels of each kind. How many parcels will there be altogether?

3. 4 sheep cost as much as 12 calves; one calf cost $6. What will one sheep cost?

4. A horse was sold for $90, which was $\frac{9}{11}$ of his cost price. How much was lost?

5. How many dollars will 3 cwt. of flour cost if 25 lbs. cost 50c.?

6. Find the cost of $3\frac{1}{2}$ lbs. cloverseed at $5.40 per bush.

7. John has 45c, James 50c, and William 75c; what is the highest number of oranges each one can buy at the highest price that will allow each one to invest all his money?

8. Walter has $\frac{1}{8}$. Jane and Mary have each $\frac{5}{12}$. How much less has Walter than the two girls?

FOURTH CLASS—TIME, TWENTY MINUTES.

1. A fence paling is 3 inches broad and 4 feet long; if the palings

are 3 inches apart, how many boards 12 feet long and 9 inches wide will be required to make 60 feet of fence?

2. $\frac{4}{7}$ of a class failed in grammar, $\frac{3}{8}$ of the remainder failed in arithmetic, and the remainder 15 passed; how many in the class?

3. How many yards of carpet 24 inches wide are required to carpet a floor 18 ft. 9 in. long and 14 ft. wide?

4. What number increased by $\frac{1}{3}$ of itself, and then by $\frac{2}{3}$ of $\frac{3}{4}$ of itself, gives 120?

5. Reduce $\frac{2}{3}$ of $\frac{4}{5}$ of a mile to the fraction of $\frac{9}{7}$ of $\frac{5}{6}$ of 8 miles.

6. A farmer exchanged 48 loads of wood, each containing $\frac{3}{4}$ cord at $4.50 per cord, for an equal number of bushels of potatoes at 55c a bushel, and of oats at 26c a bushel; how many bushels of each did he receive?

7. A drover paid $5 a head for $\frac{1}{2}$ his flock, $4 a head for $\frac{1}{3}$ the remainder, and $6 a head for the rest; the flock cost $310; how many sheep in the flock?

8. A person paid $67 for sheep, giving $5 a head for good ones and $3 a head for poor ones; how many of each did he buy?

FIFTH CLASS—TIME, TWENTY MINUTES.

1. What is the time if $\frac{2}{3}$ of the time past midnight plus $1\frac{1}{15} = \frac{2}{5}$ of time to midnight?

2. The interest on a sum of money for a certain time is $80, the discount for the same time is $60; find the sum of money.

3. If a person walks at 4 miles an hour, and rides back at 6 miles an hour, how far may he walk that by riding back he may be gone $2\frac{1}{2}$ hours?

4. Sold $\frac{1}{2}$ my goods at a gain of 30 per cent., $\frac{1}{4}$ at 28 per cent. gain, the balance at 16 per cent. loss; what per cent. on the cost was made by the whole transaction?

5. Two numbers are to each other as 9 : 16, and $\frac{1}{7}$ of their difference is $\frac{1}{12}$ a third number; the sum of the three numbers is 185; find them.

6. The discount on a sum of money for a given time at a given rate is to the interest on the same sum for the same time and rate as 10 is to 11; find the rate.

7. If $5 be the interest on $30 for a given time and rate, what should be the discount off $30 for twice the time?

8. The cubical contents of a box are $71\frac{1}{3}$ ft., the depth is $\frac{1}{3}$ the length, and the width $\frac{1}{4}$ as much again as the depth; find the dimensions.

GRAMMAR.

THIRD CLASS—TIME, ONE HOUR AND A HALF.

Values.	
5	1. How do you know the word "spectators" has three syllables?
6	2. Define common and abstract nouns. Give examples.
18	3. What affixes are used to denote "feminine gender"? State the gender of lady, goose, ox, farmer, infant, brother-in-law, witches.
4	4. Define preposition, pronoun.
25	5. Analyse, giving Gram. Sub. Comp. Gram. Pred. Comp. Extension. The sailor wrapped her in his cloak. What's that? Delighted with his present the child ceased crying. By his keenness of scent he discovered the game. Once there were five peas growing in one pod.
17	6. Tell the parts of speech in the first sentence on page 157 III reader. (Write the words in one column, then opposite each word in another column write the part of speech.)
5	7. Write the future perfect indicative active of "Strike."
20	8. Write the correct form of each of the following sentences: Neither John or James were there. Exercise is good for both you and I. Who did he tell the story to? He is the most happiest boy I ever saw.

FOURTH CLASS—TIME, ONE HOUR AND A HALF.

3	1. When are *w* and *y* consonants? When are they vowels?
3	2. Define substantive pronoun, comparative degree, participle.
5	3. Give plurals of knife, dwarf, die, volcano, appendix.
5+2	4. What is the origin of the possessive case in *'s*? How is the possessive formed when the word ends in *s*?
17	5. Analyse "The Jews would not tread upon the smallest piece of paper in their way, but took it up, for possibly, say they, the name of God may be on it."
17+2	6 Parse the following: "And who is he that will harm you if ye be followers of that which is good?" 1 Peter III 13.
16	7. Write four rules of syntax and one sentence illustrating each rule.
15	8. Correct or justify the following giving reasons therefor: Any word that will conjugate is a verb. The two logs bound with a chain fell into the river. But she fell alaughing like one out of her mind. I had several men died in my ship of yellow fever. It could not have been her.

FIFTH CLASS—TIME, ONE HOUR AND A HALF.

6	1. How many parts of speech are there in English? Explain the names they bear, and show how these names express their real character.
9	2. Mention nouns (1) that have no singular; (2) that have two meanings in the singular and one in the plural; (3) that have two meanings in the plural and one in the singular.
12	3. What is the difference in *do* in the following sentence: "This will do," "I will do the work." Criticise the following: "It is unfortunate that this paper did not end, as it might have *done*, with the former period."
12	4. State the sequence of tenses. Criticise: "Some who the depths of eloquence have found, In that unnavigable stream were drowned."
10	5. Explain the use of the Present Indefinite Tense and of the Past Indefinite Tense.
15	6. Criticise the following sentences, giving reasons either for justifying the construction or for correcting it: Whom do men say that I am? I must use the freedom I was born with.—*Massinger.* Thou, Nature, partial Nature, I arraign.—*Burns.* The province of Gaul seems and indeed only seems an exception to this universal toleration.—*Gibbon.* "The ten first chapters of the book were interesting very; the remaining was dull.
20	7. Analyse page 475, Bk. V. And there in mire * * * unhorsed the Duke of Clraemont."—*Shakespeare.*
16	8. Parse "this," "space," "that," l. 2, "being," l. 4, "plays," l. 3, "as," l. 9, "thus," l. 10, "at," l. 11.

ETYMOLOGY.

FOURTH CLASS—TIME, ONE HOUR AND A HALF.

Values.	
24	1. To the following words add prefixes denoting rest or motion before or after a place or point of time. Also give the primary and secondary meaning of the words arm, tell, past, chamber, physics, meridian, script, date.
20	2. State and illustrate by examples the changes the following prefixes undergo for the sake of euphony: ad, ob, in, pre.
14	3. Distinguish between the uses of the affixes ary, ory, ar, er, or; able, ible.
20	4. Give meaning of the following roots: give two derivative from each with their meanings; the words given are not to be modifications of one another: ango, facio, caput, dico, cor.
20	5. Analyse domicile, divination, increment, nonentity, hostler.

FIFTH CLASS—TIME, ONE HOUR AND A HALF.

15	1. Analyse eulogy, catarrh, energy, parallel, epitaph.
16	2. Distinguish by their etymology, dissimulation from dissimilation, sanitary from sanatory.
20	3. State the origin of maudlin, meander, pander, sardonic, sandwich.
20	4. State at least four ways in which words are introduced into our language.
20	5. Form at least two words from each of the following roots, giving the primary and secondary signification: stichon, ostern, horreo, jocus, tonor.

9 6. Write a list of Anglo-Saxon affixes denoting the person who is or who acts. Write a list of classic affixes denoting state, condition, quality.

LITERATURE.

THIRD CLASS—TIME, ONE HOUR.

Third Reader, Page 35, Pupils to have Books.

Values.

10 1. Give two meanings for *order* and *shroud* respectively.
10 2. What is meant by "reduce sail?"
16 3. Write other words having the same sound as *sail* and *heart*, and give their meanings.
30 4. Point out errors in the second sentence.
4 5. Why are the words "Fred Borders" written with capital letters?
10 6. When are such marks as are used before and after "man overboard" used?
20 7. Write two verses of any piece of poetry you have learned in the Third Reader.

FOURTH CLASS—TIME, ONE HOUR.

23 1. Tell what you know of the founding of "the North American Colonies."
Bk. IV, page 148—"As soon as the sun——————— discoveries.
15 2. Explain the meaning in which the following words are used in this passage:—colors, spectacle, expressed, naked sword, crucifix, voyage, issue, solemn, observe, crown.
3 3. "Whom the novelty of the scene had drawn together." What scene is referred to?
4 4. Write and give the meaning of all words pronounced like "martial."
5 5. In what year did Columbus discover America? Why was his name not given to the continent?
24 6. Bk. IV, page 90—"Lines on the Death of Wolfe." Render this selection into prose.
27 7. What is the difference in meaning between
peer the noun, and peer the verb,
rail " " rail "
row " " row "
blow " " blow "
bow " " bow "
low " " low "
chairman and charman,
palletless and paletteless,
castor and caster.

FIFTH CLASS—TIME, ONE HOUR AND A HALF.

10 1. Distinguish between a Lyric poem and an Epic poem. Name a poem of each class.
15 2. Distinguish between a romance and a novel. Name a work of each and by whom written.
5 3. Book V, page 422, 3, 4. To what kind of composition does this extract belong?
15 4. What figure of speech characterizes the extract?
25 5. Point out and expand any metaphors in the selection.
30 6. State chief political events in the time of Pope and Dryden. Scott's "Lady of the Lake" may be substituted for the above.
15 1. Give a sketch of Scott's life.
10 2. Name some of his literary contemporaries and works written by them.
5+5 3. In what meter did he write "the Lady of the Lake?" Quote examples of epiphora, anaphora, exymoron, trope, canto V ,Stanzas 15 and 16
4+4 4. Point out personal metaphor, idoles, metonymy, epizeuxis.
10+2 5. Trace the following words to their origin:—invulnerable, tough, recrean, recreant, reclived, desperate, sheath, relaxing, heath, dreadful, grasp.
10 6. Quote examples from these stanzas to show how new words are formed.
4 7. ——But-hate; state the effect of the dash and conjunction.

COMPOSITION.

SECOND CLASS—TIME, ONE HOUR.

20 1. Where should capital letters be used?
50 2. Write a short description of the "horse:"
1st. State in what countries the animal is found.
2nd. Describe its appearance.
3rd. Tell its principal uses.
30 3. From the following words write a sentence:—
dog, tail, legs, eats, bread, has, four, and, meat, the.

THIRD CLASS—TIME, ONE HOUR.

35 1. Write a short description of "Bread:"
(1) State its uses.
(2) " " varieties.
(3) " " preparation.
30 2. Combine the following elements into one sentence:
The moon shone through the opening at the mouth of the creek.
I had entered the forest by this creek.
I darted towards it like an arrow.
I considered this the best means of escape.
15 3. Correct where necessary:
Beter than grandure, beter than goald,
than ranck or titls a hunderdfold,
is a Heltbful boddy, a mind at ese,
and simple plesurs that always pleas.
18 4. Write two declarative, two interrogative, and two imperative sentences.
12 5. Where should periods be used.

FOURTH CLASS—TIME, ONE HOUR.

25 1. Write a description of "gold":
State (1) its species, (2) its distribution, (3) its properties, (4) its uses.
25 2. Book IV, page 46—The officers . . . . sentiment. Rewrite this passage, substituting for the following words their meaning: concurred, opinion, authority, private, tumultuously, expostulated, tack, perceived, recourse, rekindle, zeal, expedition, extinguished, generous, sentiment.
18 3. Write two complex declarative, two complex interrogative, and two complex imperative sentences.
12 4. State when the semicolon and the comma should be used. Write a sentence requiring a comma, a semicolon, and a mark of interrogation.
20 5. Write a letter of at least ten lines to a friend giving an account of how you spent last Xmas. (Form, spelling, simplicity, conciseness, neatness, and punctuation to be taken into account.)

FIFTH CLASS—TIME, ONE HOUR AND A HALF.

12 1. State the kinds or classes of prose and poetic composition respectively.
12 2. State the qualities of good prose composition.
24 3. Define unity and clearness of style in a sentence, and state at least three rules for preserving each.
30 4. Criticise Fifth Reader, page 255 (whole extract).
I. What sentence marks transition from admiration to sarcasm?
II. What figures are employed in the first two sentences? Are they consistent or congruous?
III. What figure of construction in sentence three?
IV. What expression in sentence nine is inconsistent with the lofty sentiment of the passage?
V. What expression in sentence ten is epigrammatic?
20 5. Write on the subject "Truthfulness," stating (1) A definition of it, (2) its aspect, (3) its applications, (4) its effects.

WRITING.

1st class, Book I., part II., page 56 "Wicked.....homes."
2nd " " II., " 127 "When he awoke...succeed."
3rd " " III., " 74 "Upon the banks...West."
4th " " IV., " 108 "In the year.....46,000."
5th " " V., " 32 "In the suburbs ...people."

Pupils are to have their Readers for this exercise,but the passage is to be written only once. Shading need not be marked for. Slope, uniformity in size and in proportion of letters to be considered principally.

READING.

1st Class, I. Reader, Part II., pp. 58, 59.
2nd " II. " " 153–157.
3rd " III. " " 89–93.
4th " IV. " " 176–179.
5th " V. " " 447–450.

SPELLING.

FIRST CLASS.

Harm, twirl, sport, blaze, whelm, bruise, scratch, snooze, speak, snug, back, deign, bounds, chase, truant, sleighs, spring, thumb, snatch, lessons, brothers, rogues, seize, growls, pretty.

Part II., page 6, from "It is God.....to.....path of sin."

SECOND CLASS.

Pretty, looking, hungry, although, scrabble, hiccough, wrong, grasp, injure, curious, providing, cantering, sentences, spectacles, kettle, sickness, pleasant, pursued, challenge, answered, beauteous, ceiling, ingenious, courtesyed, carraway.

2nd Reader, page 66, "A crow.....her bill."

THIRD CLASS.

Scoff, gnaw, razor, balance, gauge, corselet, wharfage, lozenge, pigeon, knuckle, puncheon, enfeoff, heifer, cautioning, pleasure, lawyer, resolved, experience, draughts, anxiety, assign, discouraged, rogue, manœuvre, procedure.

3rd Reader, page 103, "Jacko's.....pest."

FOURTH CLASS.

Bicipital, bureau, parochial, quadrille, paralytic, illiterate, anchovy, posthumous, corrigible, chronicle, impugn, purlieu, escutcheon, foible, moiety, indefeasible, periphrasis, risible, icicle, ecstasy, etiquette, subpoena, prescience, guitar, bazaar, catarrh.

Fourth Reader, page 25. "In one instance.....curiosity.

FIFTH CLASS.

Diaeresis, circinal, mnemonics, suppurate, accoutre, caoutchouc, phthysic, lexicographer, mysteriarch, alchymy, shrievalty, assafœtida periphery, panegyrist, hyssop, indelible, vignette, mattress, plagiarism, battalion, embarrass, quinsy, tacitly, coddling, quean.

Fifth Reader, page 151. "It was indeed.....humanity."

Spelling and dictation are to be taken as one paper and valued at 100. Deduct 4 marks for each error. Throughout the whole work deduct one mark for each error in spelling.

LITERATURE.

FIRST CLASS—TIME, ONE HOUR.

First Book, part II., page 40: Pupils to have Readers.

20 1. What is meant by "skim over the smooth ice?"
15 2. What are skates?
20 3. What is meant by "graze her shin?"
20 4. How was the poor man hurt?
30 5. Write a sentence having the words *snow* and *house* in it.

SECOND CLASS—TIME ONE HOUR.

Second Book, page 30, Pupils to have Readers.

10 1. What is a shipyard?
15 2. What is meant by "hewing a piece of timber?"
20 3. What is the difference between *piece* and *peace*?
10 4. What is a wormy piece of timber?
25 5. Give the meaning of "She went to sea," and "she sprang a leak"
10 6. What caused the loss of this vessel?
18 7. Will any wrong act or sin be kept secret always?"

GEOGRAPHY.

SECOND CLASS—TIME, ONE HOUR AND A HALF.

12 1. What is a peninsula? Name the peninsulas of North America.
12 2. What is a cape? Name and give exact position of three capes in North America.
12 3. What is a strait? Give exact position of Belleisle, Behring, Florida.
5 4. In what county do you live? What lakes near it?
18 5. Name and locate the cities in Ontario.
8 6. Give the boundaries of Asia.
25 7. Draw an outline map of North America.
8 8. Give the boundaries of the Atlantic Ocean.

THIRD CLASS—TIME, ONE HOUR AND A HALF.

9 1. Name and locate three isthmuses in North America.
8 2. What river and bay separate New Brunswick from Quebec?
8 3. What rivers flow into Georgian Bay?
18 4. Name the states of the U. S. bordering on the Atlantic Ocean.
5 5. For what is Brazil noted?
12 6. State chief products of Ontario and Nova Scotia.
30 7. Draw a map of Ontario, marking the exact position of London, Hamilton, Toronto, Kingston, and Ottawa.
10 8. How are the West Indies divided?

FOURTH CLASS—TIME, TWO HOURS.

9 1. Name three most important ports in Peru.
6 2. Name the principal Bahama Islands.
15 3. Name and locate chief mountain ranges in Asia.
12 4. State the boundaries of Turkey in Europe and name its chief cities.
12 5. State for what Rome, London, Constantinople, Greenock, Mecca, and Havana are respectively noted. (To merely state they are the cities or capitals will be of no value.)
10 6. State the comparative sizes in square miles of Europe, America, and Asia.
6 7. Name and locate chief volcanos in the world.
30 8. Draw a map of Europe west of a line drawn north from Cape Spartivento, marking chief cities, chief rivers, chief bays, and mountain ranges.

FIFTH CLASS—TIME, TWO HOURS.

12 1. Name and locate three canals in Europe and three canals in North America.
10 2. Describe the physical features of Australia.
15 3. Give a particular description of the British possessions in Africa.
8 4. How far south does the Arctic ice drift in the Atlantic Ocean? State the cause of limitation in distance.
9 5. Classify islands according to their formation and give examples of each class.
7 6. State the theory of earthquakes. Classify earthquakes.
24 7. Locate the following cities and state for what they are noted (To merely state any city to be a capital or chief city will be of no value) Madras, Toulon, Xeres, Merthyr Tydvil, San Salvador, Portland, Mocha, Koningsberg, Utrecht, Nijni Novgorod, Cairo.
15 8. Describe the climate and productions of France, Jamaica, California, Austria, Syria, and Palestine.

HISTORY.

THIRD CLASS—TIME, ONE HOUR AND A HALF.

Values.

8 1. Give an account of the discovery of America.
15 2. Name three French governors of Canada, and chief events during their terms of office.
20 3. Give an account of the conflict between the French and the Iroquois.
24 4. State the constitutional changes effected in 1663, 1791, 1841, 1867.
15 5. Give a short account of the rebellion in 1837.
12 6. Give an account of the following battles: Thames, Queenston Heights, Lundy's Lane, La Cotte Mill.
2 7. Who were the United Empire Loyalists?
4 8. Who is the present Governor General of Canada, and who the Lieutenant Governor of Ontario?

FOURTH CLASS—TIME, ONE HOUR AND A HALF.

9 1. What are Benevolences? In whose reign and why were they levied?
12 2. Name two great Charters of liberty to the British subject, and state when they were signed and assented to.
5 3. Give the cause of the Spanish War in the reign of James I.

24 4. State the results of the great Revolution in England.
18 5. What important results were secured in England through the desire of William III. to conduct with France?
14 6. What causes led to Queen Anne's war? State results of that war.
27 7. What were the two leading features of the Reform Bill of 1832?
1 8. State at least six important events in the reign of Victoria.

FIFTH CLASS—TIME, ONE HOUR AND A HALF.

30 1. Sketch the rise of the British Parliament to its present position of power and influence.
5 2. State the origin of trial by jury as arranged in the reign of Henry II.
6 3. Define Scutage, Bill of Attainder, Bloody Statute, Solemn League and Covenant, Armada, Bill of Rights.
12 4. Name and give dates for the great alliances—offensive and defensive—made by Britain.
5 5. State the cause of ill-feeling between William III. and his Parliament.
16 6. Sketch the rise of party government in England.
6 7. State dates when the Welsh, Scotch, and Irish Parliaments were united to the English Parliament.
20 8. Sketch the rise of British power in India.

General Information.

TO BE GIVEN TO PUPILS BY THEIR TEACHERS.

TEACH THE BOYS ABOUT IT.

—Envelopes were first used in 1839.
—The first air-pump was made in 1850.
—The first steel pen was made in 1830.
—Anæsthesia was first discovered in 1844.
—The first balloon ascent was made in 1783.
—The first lucifer match was made in 1829.
—The entire Hebrew Bible was printed in 1488.
—The first iron steamship was built in 1830.
—Coaches were first used in England in 1569.
—The first horse railroad was built in 1826-7.
—Gold was first discovered in California in 1848.
—The first steamboat plied the Hudson in 1807.
—The first watches were made at Nuremburg in 1477.
—Omnibuses were introduced in New York in 1830.
—The first newspaper advertisement appeared in 1652.
—The first copper cent was coined in New Haven in 1687.
—Kerosene was first used for lighting purposes in 1826.
—The first telescope was probably used in England in 1608.
—The first saw-maker's anvil was brought to America in 1819.
—The first use of a locomotive in this country was in 1829.
—The first almanac was printed by Geo. von Purbach in 1460.

At home and at school the boys should be taught the natural effect of alcohol upon the processes of human life. First, they should be taught that it can add nothing whatever to the vital forces or the vital tissues—that it never enters into elements of structure; second, they should be taught that it disturbs the operation of the brain, and that the mind can get no help from it which is to be relied upon; third, they should be taught that alcohol inflames the baser passions, and debases the feelings; fourth, they should be taught that an appetite for drink is certainly formed in those who use it, which destroys the health, injures the character, and, in millions of instances, becomes ruinous to fortunes, and to all the high interests of the soul; fifth, they should be taught that crime and pauperism are directly caused by alcohol. So long as $2,000,000 are daily spent for drink in England, and $2,000,000 per day in the United States, leaving little else to show for its cost but diseased stomachs, degraded homes, destroyed industry, increased pauperism and aggravated crime, the boys should understand the facts about alcohol, and be able to act upon them in their earliest responsible conduct.—*Parish Magazine.*

CHILDREN POISONED WITH TOBACCO.—In one of the schools of Brooklyn a boy *thirteen years old*, naturally very quick and bright, was found to be growing dull and fitful. His face was pale, and he had nervous twitchings. He was obliged to quit school. Inquiry showed that he had become a confirmed smoker of cigarettes. When asked why he did not give it up, he shed tears and said that *he had often tried, but could not.* The growth of this habit is insidious, and its effects ruinous. The eyes, the brain, the nervous system, the memory, the power of application, are all impaired by it. "It's nothing but a cigarette" is, really, "it is nothing but poison." German and French physicians have protested against it, and a convention of Sunday and secular teachers was recently held in England to check it. It was presided over by an eminent surgeon of a Royal Eye Infirmary, who stated that *many diseases of the eye were directly caused by it.* Teachers, save the children from this vice if possible! Do not allow them to be deceived. In future years they will rise up and bless you for it.—*Christian Advocate.*

The "Challenger," on its voyage, studied the sea bottom. It appears that on the surface, and at every successive depth below, there is life; as the creatures die, their remains fall to the bottom, where they are the appointed food of other creatures. At a depth of several miles, the "Challenger" found and brought up a creature seven feet high.

Many of the creatures at these depths are more or less phosphorescent. Water is the chief ingredient of life. It is the food, the blood, and the strength of these poor creatures—far more than the constituents of our own physical frames. It is water alone, inside, that can withstand the pressure of two and a half tons to the square inch, a pressure that will crush beams of pine wood as if they were passed through rollers; but that has no effect on sponges, mollusks, and even lighter creatures, that almost disappear in the air and sunshine.

WHAT IS A COLD?—To enjoy life, one must be in good health; and to remain free from disease is the desire of all. Yet there are some ailments which do not interfere very much with the pleasures of life, and therefore are not dreaded in consequence—nay, more, they are frequently treated with neglect, although in many instances they are the precursors of more serious disorders which may, in not a few cases, have a fatal termination! How often, to the usual greetings which one friend exchanges with another, is the reply given, "Very well, thank you, except a little cold." A little cold, and yet how significant this may be! In how many cases do we find a "little cold" resembles a little seed, which may sooner or later develop into a mighty tree! A little cold neglected may, and frequently does, prove istelf to be a thing not to be trifled with. Let me, then, pray my readers to remember that small beginnings, in not a few instances, have big endings, and this especially where disease exists. Let us, then, consider what is a common cold.

In the first place, we must be paradoxical, and affirm that it is not a cold at all. It is rather a heat, if I may so express myself, —that is, it is a form of fever, but, of course, of a very mild type when it is uncomplicated by any other disease. It is certainly, in the majority of instances, due to the effects of cold playing upon some portion of the body, and reacting upon the mucous mem-

brane through some intervention of the nervous apparatus. What is called a cold, then, is, in reality, a fever; and though in the majority of instances it is of such a trivial nature as to necessitate few precautions being taken during its attack, yet in some cases it runs a most acute course, and may be followed by great prostration. Even when the premonitory symptoms of a cold are developing themselves—when, for example, what a medical man calls a rigor, or, as it is popularly designated, a shivering is felt—when we would naturally suppose that the animal temperature is below par, it is at that very moment higher than the normal, thus showing the onset of fever.—*From Popular Science Monthly for April.*

Outdoor Air and Exercise.—But the surest of all natural prophylactics is active exercise in the open air. Air is a part of our daily food, and by far the most important part. A man can live on seven meals a week, and survive the warmest summer day with seven draughts of fresh water, but his supply of gaseous nourishment has to be renewed at least fourteen thousand times in the twenty-four hours. Every breath we draw is a draught of fresh oxygen, every emission of breath is an evacuation of gaseous excrements. The purity of our blood depends chiefly on the purity of the air we breathe, for in the laboratory of the lungs the atmospheric air is brought into contact at each respiration with the fluids of the venous and arterial systems, which absorb it and circulate it through the whole body; in other words, if a man breathes the vitiated atmosphere of a factory all day, and of a close bedroom all night, his life blood is tainted twenty-four thousand times in the course of the twenty-four hours with foul vapors, dust, and noxious exhalations. We need not wonder, then, that ill-ventilated dwellings aggravate the evils of so many diseases, nor that pure air should be almost a panacea.

Outdoor life is both a remedy and a preventive of all known disorders of the respiratory organs; consumption, in all but the last stages of the *deliquium*, can be conquered by transferring the battle-ground from the sick-room to the wilderness of the next mountain range. Asthma, catarrh, and tubercular phthisis are unknown among the nomads of the intertropical deserts, as well as among the homeless hunters of our northwestern territories. Hunters and herders, who breathe the pure air of the South American pampas, subsist for years on a diet that would endanger the life of a city dweller in a single month. It has been repeatedly observed that individuals who attained to an extreme old age were generally poor peasants whose avocations required daily labor in the open air, though their habits differed in almost every other respect; also that the average duration of life in the various countries of the Old World depends not so much on climatic peculiarities or their respective degrees of culture as on the chief occupation of the inhabitants; the starved Hindoo outlives the well-fed Parsee merchant, the unkept Bulgarian enjoys an average longevity of forty-two years to the West Austrian citizen's thirty-five.—*From "Physical Education," by Dr. Felix L. Oswald, in Popular Science Monthly for April.*

How the Ancients Measured a Day.—The first and most obvious division of time is a day—the time required for a revolution of the earth upon its axis—which could not have been a very difficult matter to ascertain with sufficient correctness. But to mark and fix the time of the sun's apparent revolution through the heavens among the stars was a matter of so great difficulty that it was not exactly ascertained even at the time of the reformation of the calendar in 1582; yet so uniform is the motion of the earth in its orbit that the results of modern politeness render it next to absolutely certain that the time of orbital revolution has never been varied even the fraction of a second. In the infancy of astronomy, many ingenious expedients were adopted to ascertain this and other matters connected with the times and motions of the planets and other heavenly bodies, one of which may be mentioned even at the risk of tediousness To ascertain the exact time of the revolution of the concave of the heavens, two vessels were placed over each other, the upper filled with water, the lower empty. At the moment of the appearing of a certain star the water was permitted to flow from the upper into the lower vessel, and the flow was continued until the same star appeared the next night, when the flow was stopped. The whole concave of the heavens had then made one revolution. The water which had flowed out during this time was then divided into twelve equal parts, and on the following evening they repeated the operation, filling successively six of these vessels, and noting carefully what stars rose above the horizon during the time required to fill each of them. Each group of stars which rose during the time of filling one small vessel was called a *station* or *house* of the sun. They then postponed operations upon the other half of the heavens for six months, when they repeated it, and thus divided the path of the sun through the whole heavens into twelve divisions, to most of which they gave the names of certain animals; hence the term *zodiac*, the propriety of which could have been seen only by the fertile fancies of the childhood of the race. The whole ancient method of dividing and naming the constellations is to us utterly absurd, and is really a hindrance to a knowledge of the stars. —*From the "History of Chronology," by Professor E. S. Burns, in Popular Science Monthly for April.*

Notes and News

ONTARIO.

The Oshawa High School was visited by Dr. J. A. McLellan, H. S.I,, who spoke very highly of it. He expressed much satisfaction at the tone and discipline of the school, and complimented the pupils on the excellent examination they had passed in all the subjects he had examined in. This must be extremely gratifying to the Head Master, Mr. Tamblyn, and his assistants, as it reflects much credit on their assiduity and ability.

We are continually hearing most favorable reports of the condition and efficiency of the Separate Schools in Lindsay, under the superintendence of Father Stafford. His learned, energetic and vigilant influence is exerted constantly in their behalf, and in consequence they are second to none in the Province.

We learn that Mr. J. Frith Jeffers, M.A., one of the most popular and successful Collegiate Institute Principals, has been appointed to an office on the Midland Railway, and we understand that the position is financially much better than the principalship he resigned at Peterboro'. It is evident that a Board of railway directors is better able to discern ability, and more inclined to pay for it, than some of the school boards we have lately heard of.

Mr. A. B. McCallum, M.A., Head Master of the Listowel High School, has been made the recipient of a congratulatory address by his pupils on the occasion of his having the M.A. degree conferred on him at the Queen's University, Kingston.

Mr. O'Connor, H.M. Owen Sound High School, at a recent meeting of the School Board, told the Trustees that about 100 scholars of that town and neighborhood desired to try for Intermediate and Entrance examinations.

We hear that changes are about to be made in the management of the Upper Canada College. Three of the masters have already resigned, and it is rumored that the Principal's salary will be greatly reduced.

A complete change is about to be made in the staff of Galt Collegiate Institute, for what reason we are not fully aware. The masters, Dr. Tassie, Mr. Murray, and Mr. Chase have the reputation of being among the most successful teachers in the Province. Mr. J. E. Bryant, M. A., late of Pickering College, has been appointed to succeed Dr. Tassie as Principal.

NOVA SCOTIA.

The second annual meeting of the Annapolis County Teachers' Association was held at Bridgetown on the 28th and 29th of April. The Association was presided over by L. S. Morse, Esq., A.M., Inspector of schools for District No. 4, with E. J. Lay, Esq., as vice-president, and J. M. Longley, Esq., A.B., as secretary-treasurer. Messrs. A. D. Brown, S. C. Shafner, H. Munro and J. H. Crosscup, constitute the executive committee. Papers were read by Mr. Lay on "The Time Table," Mr. A. D. Brown on "Reading," Mr. H. Munro on "The Teaching of Elementary Grammar," Mr. W. H. Fairn on "Arithmetic," Mr. S. C. Shafner on "School Government," Mr. J. H. Crosscup on "The Rewards of the Teacher," and Mr. M. L. Fields on "Method." The above subjects were all presented in a highly able and practical manner, and nothing could exceed the interest with which they were discussed by the seventy teachers present. The public educational meeting on the evening of the 28th was addressed by E. J. Lay, Esq., who delivered a very interesting and eloquent lecture on "Wonders outside of Wonderland." Short speeches were also given by the president, Mr. Morse, and by the Rev. Mr. Warren. Before adjourning, the Association voted to change its title to "The Teachers' Association of District No. 4."

The second annual meeting of the Teachers' Association for Cumberland County was held at Amherst on the same days as the above. Nearly fifty enrolled members were in attendance and the proceedings throughout were enthusiastic and encouraging. Inspector McKenzie presided with tact and efficiency. Mr. C. F. Hall of Amherst Academy acted as vice-president and Miss Logan as secretary. Papers on reading, arithmetic and spelling, or rather on the proper methods of teaching these subjects were read by Mr. Ward, Miss Archibald, and Mr. Wyllie respectively, on "Irregular Attendance" by Mr. Rockwell, and on "Compulsory Education" by Miss Logan. The question box, as well as the papers referred to elicited much earnest and profitable discussion. Among the teachers who participated actively in this may be mentioned Messrs. Smith (of Antigonish Co), Slade, Wyllie, Hutchison, Ward and Hall. Professors Hall and Eaton, of the Normal School, were present at Friday's session and contributed in a marked manner to their interest and profit. The Superintendent of Education, Dr. Allison, arrived on Thursday p. m. and remained till the close. A very largely attended public meeting was held in the Music Hall on Thursday evening. Dr. Allison's address was listened to with attention, and short speeches were made by Rev. Mr. Steele, Hon. Hiram Black, and Mr. W. F Cutler. Though the Academy is at present in a very efficient condition, the proceedings of the Association were well calculated to give a fresh impetus to the cause of education in the vicinity. Its effects will indeed be felt throughout the county.

The Easter examination at St. Francois Xavier College, Antigonish, took place from the 2nd to the 12th of April. Mr. Angus Chisholm and Mr. John McDougall, having completed the course in arts and undergone with marked success the necessary examinations, were duly graduated as Bachelors of Arts. Mr. Chisholm secured a provincial academic license at the annual examination in July last. The pass and prize lists indicate a very successful year's work.

The annual convocation of Dalhousie College was held in the Legislative Assembly room on the 27th of April. There was a large attendance. Very Rev. Principal Ross presided. Professor McDonald, secretary of the Faculty, read the list of graduates, general and special prize-men, pass-men, &c We furnish the names of graduates and prize-men :—

Graduates, B. A.—H. G. Creelman, Stewiacke ; Alf. Costly, Halifax ; W. M. Macdonald, Halifax ; J. A. Sedgewick, Musquodoboit ; W. H. Spencer, Londonderry. B. A. honours of the second rank in mathematics and physics : Hugh Graham Creelman. *Prize list.*—Classics : 4th year, J. A. Sedgewick ; 3rd year, J. S. Trueman ; 2nd year, J. A. Bell ; 1st year, (1) J. P. McLeod ; (2) H. S. Adams. Mathematics : 2nd year, A. G. Reid ; 1st year, (1) J. P. McLeod ; (2) H. Elliott. Optics and Astronomy : H. G. Creelman. Physics : G. S. Carson. Ethics : T. Stewart. Metaphysics : (1) W. M. Fraser, B. Sc. ; (2) Geo. M. Campbell. Logic : J. W. McLennan. Chemistry, organic : A. G. Reid ; inorganic : H. Dickie. Geology : A. G. Cameron. Zoology : J. A. Moran. French : 4th year, T. Stewart ; 3rd year, H. Mellish. Rhetoric : J. P. McLeod. German : A. G. Reid. *Special prizes.*—The St. Andrews' Prize : J. A. Macdonald. The Elocution prizes : (1) J. E. Forsyth ; (2) E. M. Dill. The Waverly Bursary : J. A. Bell. The Governor-General's Gold Medal : H. G. Creelman. The valedictory oration was pronounced by Mr. H. G. Creelman, B. A., after which the Hon. Mr. Holmes delivered an eloquent address, when the convocation was dismissed.

We have to record the death on the 21st of April, of Mr. Alex. McKinnon, Esq., ex-inspector of schools for District No. 7. The deceased gentleman, who retired from office last autumn, under the pressure of severe illness, secured and retained the esteem of a large circle of friends in Eastern Nova Scotia and Cape Breton. He was a native of Pictou county. In 1862 he entered St. Francois Xavier College, Antigonish, where he studied till 1867, when he removed to the Seminary of St. Sulpice, Montreal, with which he was connected as a student for two years. In 1873 he was appointed inspector of schools for the county of Cape Breton, and in 1880 was placed in charge of the enlarged district comprising Cape Breton and Richmond counties. The *Sidney Express* refers to the respect paid to his memory by the large concourse representing all classes and all creeds attendant upon his funeral ceremonies.

A shadow was cast over the Provincial Normal School by the death of Miss Janie Fraser of Pictou, a few days prior to the close of the winter session. Miss Fraser was a very successful student, cherishing intellectual ambitions perhaps too large and high for her physical strength.

The following is the report of the High School Department of Lunenburg Academy, for the winter term, 1880-81, for attendance : Prizes, Ada Morash, Mary Acker, Bessie Dares, Ida Silver, Bertha Smith, Bella Beck, Susie Hebb, Maggie Emino. (These eight pupils were present *every session of the term.* Ada Morash received a copy of Longfellow's Poems as a special prize for having been present every session of the past *three* terms. The others received copies of Owen's Chronographical Chart of General History. These prizes were awarded at the close of the Public Examination, April 29th.) The percentage of the thirty enrolled pupils daily present on an average for the whole term was 86·9, the highest the department has ever had. The total number of "tardy" marks was 41. The percentage of the twenty-six pupils present at the Public Examination was, for the full term, 94·6. The percentage of their department was over 98 ! E. H. Owen, Esq., is Principal.

MANITOBA.

Our local legislature now in session have had under consideration the School Bill ; the second reading is now in progress. In the course of the debate, the Premier and other members spoke in high terms of the excellence of the work done by the Board of Education. The hon. Senator Girard, Provincial Secretary, said, amongst other things, that the superintendents of both sections, but especially the one for the Protestant section, as he had a larger field, had distinguished themselves by their zeal in the cause of education. The latter had been continually travelling through the province explaining the school law, &c., and had done good work, and the completeness of the educational work of the province was, in great part, due to his efforts.

As soon as our provincial income had been settled to correspond with our increased responsibilities, we hope, amongst other things, to make provision for the training of our teachers ; to supply the link between the present public schools and the university, which the different colleges have provided in a most admirable manner up to the present time without any State aid ; and to secure a legislative grant for the University of Manitoba out of which to provide scholarships, similar to those that are offered by Toronto University.

The attendance in the Winnipeg schools has greatly increased during the present term, and the two departments at Portage la Prairie are so crowded that it is in contemplation to open another school forthwith.

Readings and Recitations.

SIXTEEN AND SIXTY.

Old grandma sits in her oaken chair,
And in flies Bessie with tangled hair.
"I'm going to be married, oh, grandmamma !
I'm going to be married. Ha, ha ! ha, ha !"

Old grandma smooths out her apron string :
"Do you know, my dear, 'tis a solemn thing ?"

" 'Tis more solemn not to, grandmamma.
I'm going to be married. Ha, ha! ha, ha!"

Then grandma looks through her sixty years,
And sums up a woman's hopes and fears:
Six of them living and two of them dead;
Grandpa helpless and tied to his bed.

Nowhere to live when the house burned down:
Years of fighting with old Mother Brown;
Stockings to darn and bread to bake,
Dishes to wash and dresses to make.

But then the music of pattering feet,
Grandpa's kisses so fond and sweet,
Song and prattle the livelong day,
Joy and kisses and love alway.

Old grandma smooths out her apron string,
And gazes down at her wedding ring.
And still she smiles as she drops a tear:
" 'Tis more solemn not to. Yes, my dear."

—*Harper's Weekly.*

THE TEACHER.

I saw a teacher building slow,
Day after day as passed the years,
And saw a spirit temple grow
With fear, and hope, and often tears;
A mystic palace of the soul,
Where reigned a monarch half-divine,
And love and light illumed the whole,
And made its hall with radiance shine.

I saw a teacher take a child,
Friendless, and weak, and all alone,
With tender years, but passions wild,
And work as on a priceless stone;
Out of the rude and shapeless thing,
With love, and toil, and patient care,
I saw her blest ideal spring—
An image pure and passing fair.

Upon a canvas ne'er to fade
I saw her paint with matchless art,
Pictures that angels might have made
Upon a young and tender heart;
And growing deeper for the years,
And flowing brighter for the day;
They ripened for the radiant spheres,
Where beauty ne'er shall pass away.

Teacher! Farewell! For all thy care,
We long shall love thy cherished name;
For all thy toil we give a prayer,
For all thy love we give the same.
Farewell! Be thine the happy years,
And thine the Hope, and Faith, and Trust;
That when the dawn of Heaven appears,
Thy crown may shine with all the just.

—*By Wm. Oland Bourne.*

LIZZIE DEANE'S BABY.

BY M. E. H. EVERETT.

A cry of horror went up one day,
When the ground with snow was white,
For Lizzie Deane's baby had frozen and starved
On its mother's breast at night
And not in the dreary Western wilds,
And not on the bleak East shore;
But here in our proudest city's street,
And close to the rich man's door.

Poor Lizzie Deane's baby was clasped all night
To its mother's empty breast,
And folded close in her faded rags
By her thin cold arms was pressed.

All night, in her bitter grief, she saw
The red lamps glare through the gray,
But the pitying stars she could not see,
For the clouds shut heaven away.

And long, when the happy children play
By the cozy fire at night,
And the mother rocks her own little babe,
All robed in its dainty white,
By many a hearth shall the tale be told,
With a long and dreary sigh,
How Lizzie Deane's husband, crazed with drink,
Turned his babe in the street to die.

Teachers' Associations.

The publishers of the JOURNAL will be obliged to Inspectors and Secretaries of Teachers' Associations if they will send for publication programmes of meetings to be held, and *brief* accounts of meetings held.

FRONTENAC.—The Association met at the Court House, Kingston, on the 28th and 29th April. The chair was taken by the President, Prof. Dupuis, of Queen's. After routine business on Thursday, the Rev. D. Mitchell, of Belleville, gave an address on "The Duties and Responsibilities of the Teacher" He was followed by Prof. Fowler, of Queen's, who took for his subject, "Plant Life as a means of Culture." After passing votes of thanks to Rev. Mr. Mitchell and Prof. Fowler, the Association resolved itself into a committee of the whole for the purpose of discussing the proposed changes in the Superannuation Fund. About one-half of the circular had been discussed when the time for adjournment arrived. In the evening, the Rev. Dr. Bell, of Walkerton, gave an address to the teachers and their friends. On the Association resuming on Friday, Mr. S. Lyon gave a valuable paper on Topographical Map-drawing, showing some fine work done by pupils in illustration of his method. He was followed by Prof. Watson, of Queen's, one of the new members of the central committee, who urged on all teachers the propriety of always having some subject of study on hand; he then gave an introductory lesson on Logic. Prof. Watson received a hearty vote of thanks. The Question Drawer was then opened, and answers were given by the members of the committee. In the afternoon, the discussion on the Superannuation Fund was finished. The following alterations were proposed in the circular issued by the Legislative Committee of the Provincial Association: Male teachers to be allowed to retire at fifty, or after 30 years' service, females at forty-five, or after 25 years' service; one-fiftieth of the average salary to be the rate of pension instead of one-sixtieth; and, on the death of a teacher, all money paid by him into the fund to be returned to his widow, or next of kin, with interest at five per cent. per annum. The following officers were elected for the ensuing year:—President, Prof. Dupuis; Vice do., Dr. Agnew, I. P. S.; Secretary-Treasurer, Mr. Henstridge; Committee of Management, Messrs. Bole, McIntyre, Seth Lyon, W Maybee, Fred. Summerly, Mrs. Campbell, and Misses Purdy and B. Irvine. The association then adjourned, to meet in Kingston on the 28th and 29th October.

J. W. HENSTRIDGE, *Secretary.*

ELGIN.—The most interesting and profitable session ever held by this Association took place on May 12th and 13th, at the Collegiate Institute, St. Thomas. A report from the committeee appointed to arrange with the manager of the CANADA SCHOOL JOURNAL was read by Principal Millar, showing that every member of the Association was furnished with a copy of the CANADA SCHOOL JOURNAL, paid by the funds of the Association. The following resolution was carried: "That in the opinion of this Association, the proposed changes in the law relating to Superannuation are in the main desirable; but this Association is moreover emphatically of the opinion that it should be optional with *all* to contribute to the fund or not, as they please, and that no teacher should be forced to make any contribution thereto. Principal Millar and R. C Inglesby were appointed delegates to the Provincial Association. Very able essays were read by Norman McDonald, Misses Sinclair and Hickcox on the following subjects respectively, "English Literature," "Advantages to Girls in having Teachers of their own Sex," and "The Duty of Teachers to the Profession." The Association requested the essays should be published. As usual, many valuable hints and suggestions were given by Messrs. Millar, Butler, Inglesby and others during the discussions on the various subjects taken up. But "the life and light" of the meeting was G. W. Ross, M.P.P. Either to enlarge on the ability of Mr. Ross or give even an outline of the work done there by him would not do him justice, as he is a "whole host" in himself. Suffice it to say that his lectures on "Mistakes in Reading," "Intellectual Forces," and "The Ten Commandments" were pregnant with ideas, and had a very beneficial influence on all who heard him, as he has a wonderful store of genuine magnetism in him, and never fails to arouse and carry his audience in pleasant paths of interest and instruction.

EAST VICTORIA.—The seventh semi-annual meeting of this Association was held in the High School, Omemee, on the 13th and 14th ult. The attendance on the first day was large. Mr. J. Shaw, M.A., president, opened the proceedings with an address bearing upon the teacher's practical work and his fitness for the profession, dwelling particularly on the benefits to be derived from studies in language, literature, and science. Mr. W. E. Tilley, M.A., H. M. Lindsay High School, moved a vote of thanks to the president for his excellent address, and requested him to allow it to be published in a local newspaper. Mr. J. H. Knight, I.P.S., seconded the motion, which was passed with applause. In the afternoon Mr Seymour, of Lindsay High School, took up "Geography," and treated the subject in a manner that won the approbation of the members. He showed in an interesting manner how it may be taught to very young scholars, beginning with local places and extending till it comprised a full knowledge of the subject as the pupils became more advanced in class. Mr. M. Harrington illustrated his plan of teaching per centage to a class; some of the members present acting the part of pupils. These two subjects were then discussed in order by Messrs. Armour, Hickson, Knight, I.P.S., Balfour, Ingram, Sherwood, McMurchy, R. Junkin, Tilley, M.A., Carruthers, J Junkin, and the president. In the absence of Mr. H. Reazin, I.P.S., West Victoria, who could not attend, Mr. J. H. Knight, I.P.S., led the discussion on the Superannuated Teachers' Fund, as submitted in the circular of the Legislative Council (published in April number of CANADA SCHOOL JOURNAL). In taking up the clauses *seriatim*, Mr. Tilley proposed, and Mr. Armour seconded, that the fund be retained, the name being immaterial. Mr. McMurchy moved, and Mr. Ingram seconded, an amendment to the effect that it be discontinued. On being put to the meeting the amendment was carried and further discussion stopped. The president remarked that the proceeding was unworthy of the association, as their opinion would not abolish the fund, but their action would make them ridiculous in the eyes of other associations. The following were appointed a committee of nomination:—Messrs. Knight, Junkin, Sherwood, Head, and Irwin. In the evening a meeting was held in the Bradburn Hall, presided over by Dr. Norris, Reeve of the county. An address on the "Duties of Trustees" was given by Mr. J. H. Knight, I.P.S. He handled his subject with much ability, showing some of the difficulties and responsibilities of the office He advised the policy of re-engaging a good teacher at his present salary rather than run the risk of getting an indifferent one for a few dollars a year less; and he strongly deprecated a growing spirit of false economy, which must have a baneful effect on future education. In the course of his address he gave some excellent practical hints, which showed his thorough knowledge of school work. Mr. J. Shaw, M.A., president of the Association, read an admirable essay on "Prosody." He was followed by Mr. J.L Robertson, of the CANADA SCHOOL JOURNAL, who gave a short address on "Teaching in Ireland, Past and Present;" after which, on the motion of Mr. Knight, seconded by Mr. Graham, a cordial vote of thanks was given to the chairman. On the proposition of Dr. Norris, seconded by Mr. Graham, a hearty vote of thanks was passed to the speakers, and the meeting was closed. After assembling on the second day at 9 a.m., the "Question Drawer" was answered by Messrs Knight, Armour, McMurchy, Seymour, J. L. Robertson, and Lee. The nomination committee gave in their report, which, after some slight alteration, was adopted as follows:—President, Mr. Armour; First Vice, Mr. W. E. Tilley; 2nd, Mr. Harrington; Secretary, Mr. J. H. Knight; Treasurer, Mr. Irwin; Librarian, Mr. McMurchy; Committee of Management, Miss Holtorf, Messrs. J Junkin, J. Shaw, and G. A. Sherwood Some dissatisfaction having been expressed at the shutting down of the Superannuation Fund discussion the previous day, Mr. McMurchy moved that it be reconsidered, seconded by Mr. Irwin, and carried. The following resolutions were then passed:—"Whereas the Teachers' Association for East Victoria had expressed the opinion that the Teachers' Superannuation Fund should be discontinued, at the same time we are of opinion, if the said fund should be retained, that—1st. The payments should be optional on all teachers and inspectors. 2nd. That the sum to be paid should be in all cases $4 each per annum. 3rd. If public school teachers are compelled to contribute to the fund, the same obligation should rest on the teachers of High and Separate schools, also on High and Public school inspectors. 4th. It should be optional with teachers to retire at the age of 55, or after 21 years' service." Mr. G. A. Sherwood then read a very interesting and instructive essay on the "Literary Requirements of the Present Age," and after transacting some routine business the Convention adjourned.

LINCOLN.—This Association met at the Central School, St. Catharines, on Friday and Saturday May 20 and 21. Mr. J. M. Buchan, M.A., H.S. Inspector, conducted a Teacher's Institute on the subjects of English Grammar, English Literature and History. On Friday evening Mr. Buchan delivered his lecture on "Poetry and Politics." Mr. Eckert, of London East, took up the subject of Writing. Mr. Geo. W. Ross, M.P.P., happening to be present, delivered a humorous but instructive address on the teacher's Ten Commandments, and also a short one on School Management. J. B. Somerset, Esq., P.S. Inspector for Lincoln, read a paper on Practical Aids to Teachers' Work. The proposed changes in the Superannuation Fund were taken up, but after considerable discussion it was found impossible to arrive at any definite conclusion, and the matter was dropped.

SPECIAL MEETING.—A special meeting of the Waterloo County Teachers' Association was held in the Central School, Berlin, on Saturday, May 21st, to discuss the circular respecting the Superannuated Teachers' Fund, sent out by the Legislative Committee of Provincial Teachers' Association. The meeting was called to order at 10 a.m. by the President, Mr. S. S. Herner, and opened by Mr. Alexander leading in prayer. Moved by Mr. Alexander, seconded by Mr. Suddaby, that the circular be taken up clause by clause. Carried Moved by Mr. Alexander, seconded by Mr. Linton, that the first clause be passed. Moved in amendment by Mr. Groh, with Mr. B. Hal. Brown as seconder, that in the opinion of this association, the Superannuation Fund, as at present existing, should be abolished on equitable conditions, and that no Teachers' Retiring Fund be instituted. After a lengthy and animated discussion, in which Messrs. Linton, Crookshank, Groh, Alexander, Steuernagle, Brown, Suddaby, Chapman, and Mueller took part, the amendment was carried by a vote of nearly two to one. Moved by Mr. Alexander, seconded by Mr. Suddaby, that we adjourn, to meet at our next regular session in September.—Carried.

S. S. HERNER, Pres. CHAS. A WINTER, Sec.-Treas.

TEACHERS' ASSOCIATIONS, 1881.

SUMMARY.

COUNTY.	Place of Meeting.	DATE.
South Hastings	Belleville	2nd and 3rd June.
North York	Newmarket	3rd and 4th June.
North Huron	Seaforth	2nd and 3rd June.
Prescott	Vankleek Hill	9th and 10th June.
South Essex	Kingsville	9th and 10th June.
West Bruce	Kincardine	9th and 10th June.
South Wellington	Guelph	3rd and 4th June.

SOUTH HASTINGS.—This Association will be held in the Central School, Belleville, on Thursday and Friday, 2nd and 3rd of June next, beginning at 9 a. m., each day. PROGRAMME.—*Thursday, 2nd.*—9 to 10 a.m., Election of Officers and Delegate to the Provincial Teachers' Association. 10 to 10.30 a.m., Mensuration, G. W. Sine. 10.30 to 11.15 a.m., Stocks, O. S Hicks. 11.15 to 12 a.m., Writing, G M. Yerex. 1.30 to 2.30 p.m., Reading First and Second Books, G. S. Wilson. 2.30 to 3.30 p.m. Grammar, 3rd and Junior 4th Classes, J. W. Dafoe. 3.30 to 4.20 p.m., Mental Arithmetic, E. H. Anderson. 4.20 to 5 p.m., Fractions, G. M Yerex. *Friday, 3rd.*—9 10 a.m., Elementary Arithmetic, J. Wheeler. 10 to 11 a.m., School Management, G. H. Parker. 11 to 12 a.m., Grammar to Senior 4th and 5th Classes, Prof. H. M. Hicks. 1.30 to 3.00 a.m., Book-Keeping, J W. Johnson, Principal Ontario Commercial College. 3 to 4 a.m., Discussion on the proposed changes in the Law relating to Superannuation Fund, by Convention, introduced by Mr Irwin. Every teacher is earnestly requested to attend punctually each day. A lecture on Thursday evening in the Town Hall. The discussions will be interspersed with readings, music and singing.

S. A. GARDNER, Secretary. J. JOHNSTON, President.

NORTH YORK.—The next meeting of this Association will be held in the Model School, Prospect Street, Newmarket, on Friday and Saturday, 3rd and 4th June, commencing at 10 a.m. Programme for session as follows; Reading, open to friendly criticism, D. Hull; Selection, Fifth Book, page 55, and Spelling, Third Book, Miss Thompson; Object Lessons Mr. Fotheringham; Sub-Mood, Mr. H. Irwin; Literature, 1881; XVII. Sec., VI Canto:—"At once there rose"—"We'll drive them back as tame," Mr. J. E Dickson, B.A.; Reading Assoc. Selection, Fifth Book 463, also 510, S. Holland, leader; Reading by Class in Second Book, Miss McMurchy. Mr. J. Hughes, P.S.I., Toronto, has kindly consented to be present, to deliver a lecture on Friday evening—subject, "School Room Humor"—and methods of teaching subjects in P. S. work, on Saturday. By order of Ex. Committee.

S. E. JEWITT, Sec.-Treasurer. D. FOTHERINGHAM, President.

PRESCOTT.—There will be a meeting of this Association at Vankleek Hill on the 9th and 10th of June next. Programme for Thursday, 1st Session, 9 to 12 a.m.—1. President's Address; 2. Election of officers; 3. Arithmetic, 4th class problems—J. W. McCutcheon, How to teach Reduction, W. S. Johnston. 2nd Session 1 30 to 4.30 p.m.—4. Geography, F. Bisset; 5 The Noun, John Hayes; 6. French Addresses, Messrs. Belanger and Kyle; 7. Practical Chemistry, T. Otway Page, B A. Public Lecture, 7.30 p m.—8. Poetry and Politics, J. M. Buchan, M.A., I H.S. Programme for Friday, 1st Session, 9 to 12 a.m.—1. A discussion on proposed Amendments to the School Law; 2. English Grammar, J. M.Buchan, M.A. 2nd Session, 1.30 to 4 p.m.—3. Public School Programme, W. J. Summerby, I.P.S.; 4. Algebra, W. F. Morphy, 5. Spelling, H. Gray. The School Law positively states that all Teachers shall be present.

HENRY GRAY, Secretary.

WELLINGTON.—The semi-annual meeting of the First Division of the Teachers' Association of the County of Wellington and City of Guelph will be held at the Central School on the 3rd and 4th June. Papers will be read as follows: *Friday.*—1. Punishment, Mr. Hyatt; 2. Arithmetic, Mr. Patterson; 3 Factoring, Mr. Davidson; 4. Junior Reading, Mr. Clark; 5. Moral Influence of the School Room, Rev. R. Torrance; 6. Third Class Grammar, Mr. Young; 7. Composition in Public Schools. Mr. Roberts. *Saturday.*—1 Hints to Teachers, Mr. McLaren; 2. Penmanship, Mr. Collins; 3. Senior Reading, Miss Mills; 4. Experiences of an Inspector, Mr. Craig; 5. Public School Programme, Mr. Petrie. Critics have been appointed for each subject. Should time permit, the Association will discuss the following subjects: "Superannuation," "Model Schools," and others which may be suggested. On the evening of Friday, 3rd

June, there will be a public meeting in St. George's Hall when Dr Workman, late Superintendent of the Asylum for the Insane, Toronto, will deliver a lecture on "Overwork of the Brain." There will also be readings, recitations, vocal and instrumental music.

BRUCE.—The annual meeting of the West Bruce Teachers' Association for 1881 will be held in the Central School, Kincardine, on Thursday and Friday, June 9th and 10 h. Programme.—Opening Address by the President: Readings by Misses H Leadbetter and Isabella Smith, and Messrs Ewen McKenzie and D. Thomson; Essays by Misses A. Johnstone and E. Ross, and Messrs. C. Kemp. D. Christie, T. Mathers, and J. McKinnon; Case by Mr. Middleton; Infinitives and Participles by Mr. H. B. McKay; Analytical Arithmetic by Mr. F. C. Powell; Algebra Equations by Dr. J. A. McLellan, H. S. I.; Elocution by Dr. J. S. McLellan, H S I.; A discussion on Corporal Punishment in Public Schools, to be led by Mr. J. McKinnon; Best method of recording the work of the day, by Mr F. C. Powell Dr. McLellan will deliver one of his excellent addresses in the Town Hall on Thursday evening, It is to be hoped that all the Teachers of West Bruce will avail themselves of the opportunity of hearing the Doctor, who has again kindly consented to assist at our Associations, and who, at his last visit, delighted the teachers and public with his admirable lectures on Algebra and Arithmetic, and his eloquent address on "This Canada of Ours," in the Town Hall.

A. CAMPBELL, President. A. H. SMITH, Secretary.

REVIEWS.

THE MUSICAL TIMES for May keeps up its interest. The continuation of sketches of "Berlioz," by Joseph Bennett, and "Mr. Pepys, the Musician," by Francis Hueffer, forms an attractive feature—many of the anecdotes, especially of the former, being irresistibly droll. The music of Anton Dvorak occupies a concluding chapter, and its quaintness is attractive. The two pieces selected are sacred; the first, "The Son of God goes forth to War," being arranged to the old, familiar St. Ann's tune by Arthur Sullivan, and is peculiar in its style; the other, "God so loved the World," is a short and simple arrangement by Sir John Goss. The notes and topics are, as usual, very readable.

THE HISTORY AND GRAMMAR OF THE ENGLISH LANGUAGE, adapted to the use of Pupil Teachers and Normal Schools. *By the Right Rev. C. H. Bromby, D.D., Lord Bishop of Tasmania.* Revised and partly re-written by J. L. Reynolds. Second revised edition. *London: Moffatt & Paege, Price 2s. 6d.* Dr. Bromby, the author of the text-book on which this work is based, was formerly principal of the Trinity Colleges at Cheltenham. As the reviser, Mr. Reynolds, is a successful teacher of many years' standing, we have in this text-book the benefit of the accumulated experience of two tried and able men. Whether we consider the sound scholarship manifested in it, its practical character, or the way in which it is printed, it is inferior to no other grammar of its size in the market.

The June number of the *Atlantic Monthly* contains: "Over on the t'other Mounting," by Chas. Egbert Craddock; "The In-door Pauper, a Study," by Octave Thanet; "A Spring Opening," by Edith Thomas; "Bergen Days," by H.H.; "Felicissima," by Eliza Calvert Hall; "Who lost Waterloo?" by John C. Roper; "The Portrait of a Lady," chapters 29 to 34, by Henry James, jr; "Chance"; "French Tragedy," by Richard Grant White; "Friends, a Duet," chapters 14 and 15, by Elizabeth Stuart Phelps; "A Taste of Maine Birch," by John Burroughs; "Whittier's King's Missive, and other Recent Poetry"; "Five American Novels;" "Carlyle's Reminiscences;" "The Renaissance in France;" "The Contributors' Club;" "Books of the Month"; and "Auf Wiedersehen." We commend it to our readers as an interesting number. The last article, "Auf Wiedersehen," is a beautiful short poem in memory of James Thomas Fields, who has recently died. Mr. Fields was one of the early publishers of *The Atlantic*, and its editor from 1862 to 1871. He had many friends among men of letters, in both his own country and England, and published, a few years ago, a very readable volume of reminiscences, entitled "Yesterday with Authors."

—There is a scheme of professional training which I believe is adapted to the great unstable element, and which should be worked out and rendered practical in its details, and at no distant day put into operation. I refer to the official arrangement of courses of reading and private study. It has seemed to me that the State Normal Schools might increase their power for good by post-graduate work. If these schools could say to their graduating classes, whose course is necessarily so limited, "there is something for you to do the coming year; at its end come back and pass our examinations and we will add it to your honors," I am sure many of them would continue their studies. A good Normal School would give its graduates an impetus to such study. Theological schools favor their young men by courses of private study, and they work themselves up through them to their degrees. Such courses would do that for an ambitious girl which she most needs to have done for her, which is to mark out a path. She does not know what it is best to undertake, and having nothing to determine her, she resolves upon this and that and ends in doing nothing at all. But such a course of reading might be made especially valuable to young teachers who have had few opportunities for study, have no settled plans for life and no clue to its mysteries upon every hand. They must do something to live, teaching is not as laborious as some occupations, is more respectable, and pays better.—MISS LATHROP.

—The following is a copy, *verbatim et literatim*, of a census schedule collected by an enumerator at Brightside, near Sheffield:—"gorge John ——, head of the house, farm laurber, age last birthday, 302 years. Wife Margret, ——, age last birthday, 206 years. daught Mimney ana ——, age last birthday 2 years. brother William ——, age last birthday laubor to steel works 208 years. gorge John —— born in the parish of ould buckingham Norfick Ingland. margret ——, born in the Parish of aughtboe quieens county ireland. William ——, born in the Parth of aughtboe quieens county ireland unmarred."

Publishers' Department.

ANOTHER COUNTY HEARD FROM! WELL DONE, LANARK!!

At the late meeting of the Teachers' Association, Lanark County, it was decided to give the JOURNAL for one year to each member in full standing.

At the convention of the South Grey Teachers' Association, held at Flesherton last month, a by-law of the constitution was altered to enable the lady members, who previously were not required to pay into the funds, to become subscribers on same footing as male teachers, and a resolution was unanimously passed to give every paying member, out of the funds of the Association, a copy of the CANADA SCHOOL JOURNAL, or Gage's SCHOOL EXAMINER AND MONTHLY REVIEW. The result was that where only a few had hitherto been paying the annual fee, now nearly every one subscribes. and the Association has thereby gained considerably in vigor and strength. The ladies entered warmly into the arrangement. The plan of giving the teachers some substantial benefit in return for their annual fee has produced the best results in every association where the bonus takes the shape of the CANADA SCHOOL JOURNAL.

—Teachers out of health are invited to read the advertisement in this issue of the Electro-Medical Institute, Toronto. Resting here for a time, and using the varied therapeutic means at the command of the medical staff, lost health may be recovered and renewed energy received for the work of the school room. We understand that special terms are given to teachers.

—At the Australian World's Fair, just closed at Melbourne, Carter, Dinsmore & Co., manufacturers of Carter's inks and mucilage, received four awards—three of the first order of merit, for copying, black and colored inks, and one of third order of merit for mucilage. The last, although of third order, was the highest and only award made for mucilage.

—In consequence of pressure on our space, we are compelled to hold over till next issue some communicated articles, teachers' convention reports, and other matters of interest.

What some of the Leading Educationists of America say of

THE CANADA SCHOOL JOURNAL.

From Superintendent of Public Instruction State of Pennsylvania.

I have read the CANADA SCHOOL JOURNAL from the first number to the last. It is one of the best magazines of its class published in America.

J. P. Wickersham

From Superintendent of Public Instruction State of Maryland.

Among all the Educational Magazines which come to this office, there is none I value more highly than the CANADA SCHOOL JOURNAL, partly from its high intrinsic value, and partly because it gives us an opportunity of noticing how various most important subjects look when viewed from a standpoint somewhat different from our usual one. This opportunity is very valuable and indeed essential to all who would pass beyond the limits of local education.

M. A. Newell

From the Secretary of Board of Education State of Connecticut.

The CANADA SCHOOL JOURNAL seems to me ably edited, practical, suggestive and well adapted to aid teachers and school officers in their important work. It merits a wide circulation in the United States as well as in Canada.

B. G. Northrop

From Superintendent of Public Instruction State of Alabama.

The copy of the CANADA SCHOOL JOURNAL which you were kind enough to send me has been received and carefully examined. I do not hesitate to say that I regard it as a paper of great service, and I shall be glad to have it widely circulated and extensively read in Alabama.

Leroy F. Box

From the Superintendent of Public Instruction State of New Jersey.

I have examined the copy of the CANADA SCHOOL JOURNAL sent me, and I am pleased to say, that throughout, it bears evidence of being edited with ability and good judgment.

Ellis A. Apgar

From Chief Superintendent of Education, New Brunswick.

I could wish that every teacher in the Province had the advantage of regularly perusing the CANADA SCHOOL JOURNAL.

Theodore H. Rand

From the Superintendent of Public Instru tion, State of Michigan.

I am much pleased with the CANADA SCHOOL JOURNAL. It is solid but not heavy, spicy but not trifling. I hope you may get a large number of subscribers in Michigan.

C. A. Lower

From Superintendent of Public Instruction State of Missouri.

The CANADA SCHOOL JOURNAL has been coming to my office regularly, and is placed on permanent fyle. I find it a very excellent journal, both as to its mechanical execution and the character of its editorials and contributions. Its subscription price is very small. I commend it to all educators with whom my opinions on such matters may have weight.

R. D. Shannon

From Superintendent of Education for New Orleans.

Your CANADA SCHOOL JOURNAL I read with interest—deeming it one of the most valuable published on this continent. The matter therin is manifestly prepared with great care, as well as ability, and the subjects treated are of the highest importance to teachers and School officers. It will afford me pleasure to show your JOURNAL to friends who call upon me.

Robt. M. Lusher

From Superintendent of Public Instruction State of Illinois.

I am very much pleased with the CANADA SCHOOL JOURNAL. It is ably edited; and with its valuable contributions and well chosen selections, it furnishes so much that is of use to every teacher, that I am not surprised to learn that it has a large and growing list of subscribers. The copy sent me is No. 30. Am I asking too much in requesting you to send me the back Nos. of Vol. iv, so that beginning with Vol. iv, I may have a complete fyle?

James P. Slade,

From Superintendent of Public Instruction State of Tennessee.

I take pleasure in commending the CANADA SCHOOL JOURNAL as being eminently instructive to the teacher, and as containing the order of merit, as an educational instrumentality for the elevation of the standard of teaching.

Leon, Trousdale

From Superintendent of Public Instruction State of Mississippi.

* * * * Its different departments are all ably conducted, and of educators, as well as others cannot but be interested and instructed by reading it. Accept my thanks for your proposition to send it to this office regularly.

J. Smith

From Chief Superintendent of Education Nova Scotia.

In order to meet the wishes of our teachers in various parts of the Province, and to secure for them the advantages of your excellent periodical, I hereby subscribe in their behalf for one thousand (1,000) copies, at club rates mentioned in your recent esteemed favor. Subscriptions will begin with January issue, and lists will be forwarded to your office in a few days.

David Allison

From Superintendent of Public Instruction State of Minnesota.

I have read late numbers of the CANADA SCHOOL JOURNAL with the conviction that it is a valuable work for teachers of the United States, especially of the West. * * * I hope the JOURNAL will be taken and read by many of our teachers.

A LONG-FELT WANT SUPPLIED.

Gage's Practical Speller,

A MANUAL OF SPELLING AND DICTATION.

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UPPER CANADA COLLEGE.

On no question connected with educational matters in this Province has public opinion expresed itself more unmistakably than with regard to the maintenance in its present condition of Upper Canada College. It has been proved again and again that the work of higher secondary education, which was formerly done by Upper Canada College, is now as a matter of fact carried on by the High Schools and Collegiate Institutes. The verdict of the press of Ontario is unanimous against the policy of maintaining an expensive institution whose usefulness is of the past, and whose only purpose is to train the sons of certain persons imagining themselves to constitute the "upper classes," in ideas of pride and exclusiveness quite unsuited to the free atmosphere of Canada. In fact, except those who have a direct money interest in the College, and their personal friends on the staff of one great Toronto journal, we have heard of very few who approved of keeping up this cumbrous establishment at the public expense for the benefit of a few.

It is quite true that a great change in the right direction has been carried out by the Minister of Education in bringing Upper Canada College under the direct inspection of the Education Department. But we venture to predict that even this will not satisfy public opinion. The more evident the admirable work and high tone of scholarship in the Collegiate Institutes of the Province, the more intolerable does it become that the Province should maintain a rival institution whose invidious claims to social superiority are not borne out by superior or even equal educational results. The English Public School system, as far as it consists in having a special educational establishment for the sons of the aristocracy, is part of a social system which has no existence in this country. Canada has no aristocracy, no privileged class; and any attempt to set apart a place of education for the children of a class, is utterly out of harmony with all that is best in Canadian life. We hope that the press of Ontario will not let this matter drop. It is their interest and their duty to support the cause of the Collegiate Institutes of the Province, and no greater service can be done to these Institutes than by abolishing the rival, which diverts a class of pupils who have themselves everything to gain by mixing on equal terms with the boys whom they will afterwards meet as class-mates in the University. A responsible Minister can not long disregard a strong expression of public opinion. It is the intention of the Canada School Journal to recur to this question again and again until some satisfactory action be taken by the Department of Education.

A suggestion was put forward at some length in a leading article in this journal to the effect that Upper Canada College be utilized as a college for ladies. This suggestion was borrowed without the courtesy of acknowledgment by the *Bystander* for the next month, and afterwards by several Toronto papers. It is a suggestion which, though not immediately, we fully expect to see carried out. For with the example of the success of colleges for women, not only in America, but recently at Oxford as well as at Cambridge, such an institution is a want which the Province ought to supply. Should Upper Canada College ever be utilized for this most important object, those who wish to give credit where credit is due will remember the fact that the proposal originated in the Canada School Journal.

STUDY DURING VACATION.

Once more the Birthday of our Dominion brings round that season of holiday rest which is quite as welcome to the teacher

as to the scholars. Sancho Panza invoked a blessing on "the man who invented sleep;" with equal reasons might we of the teaching profession bless the inventors of the summer holidays. We purpose to say a few words as to holiday study, premising that we do not mean by "study" a prolongation into the vacation recess of those exercises which form the staple of the school-room work. The brain and nervous system should have the benefit of entire rest from the work-day pursuits. Our first study during the holiday season should be to take *rest.* This does not come as a matter of course, and there are many ways of spending the holidays which are anything but "rest." To hurry from one excitement to another, to spend in dissipation the leisure purchased by hard work, is but to substitute one form of nervous excitement for another. The most of the summer holidays should be spent in close communion with nature. We should assimilate and make our own some one aspect of the beautiful land we live in, of whose scenery quietude is a distinguishing feature—the stillness of her woods, the calm of her lakes, the tranquil progress, "without haste, without rest," of her rivers. But as Dr. Johnson has recorded of Mr. Carr, the originator of the *Gentleman's Magazine*, that he never even looked out of the window without thinking of serving the interests of his magazine, so the true teacher, even in pleasure seeking, will not be unmindful of that which is the real business of his life. A most useful form of holiday study would be the mastering of at least one subject parallel to, but not identical with, those in the school-room course; such as a given period of French or German history, or the practical study of a science such as botany, but capable in a high degree of being utilized as a means of interesting scholars, and interpreting to them in some measure the meaning of this little corner of God's universe in which their lot is cast. In fact there is no subject of intellectual study which will not enable the really earnest teacher to return to the school-room with fresher illustrations, a newer stock of anecdotes, keener and more varied power of interesting and developing the growing intelligence with which he has to deal.

THE REVISED NEW TESTAMENT.

The German poet, Heinrich Heine, well said "when God willed to give the German people the German Bible, He did not leave the work of translation to an ordinary mortal, but created a Martin Luther for the purpose." We believe this to be no mere poetical fancy, though Heine, who wrote it, was a Jew by birth and a sceptic by profession; for all the great translations of the Bible were the work of men of vast intellectual force, and exercised a powerful influence on the thoughts of the age in which they appeared, from the earliest we now possess, the Latin Vulgate by Jerome, in the fifth century, to our present authorized version in the reign of James I. A new version, or rather a revision of the present one, had become necessary; the great advance of scholarship had altered our conception of the meaning of many words and passages, while the inevitable growth of the language made certain changes desirable in order that the sacred text should be intelligible. The result is now before the world. The first thought that strikes one is the small amount of change, and the fidelity with which, when change was unavoidable, the manner and rhythm of the old version has been retained. It is not possible to pronounce authoritatively as to the acceptance which the new version will ultimately meet—on the whole the impression seems in its favor, and there is no doubt that an important contribution has been given to what will be, for all the English-speaking race, the Bible of the future.

THE LAST APPOINTED INSPECTOR.

The progress of education in Ontario has not been unlike the progress of Milton's planets,

> * * Now high, now low, then hid;
> Progressive, retrograde, or standing still.

The period just preceding the appointment of County Inspectors must be classed under the "standing still," if not under the "retrograde." But with the appointment of these officers a new order of things was inaugurated. A rapid advance began along the whole educational line. New school-houses were built, old ones repaired and enlarged, play-grounds beautified, and the well-qualified teacher took the place of the incompetent. Where so many appointments had to be made, strange indeed would it be had all turned out well; but, on the whole, the Inspectors are well-educated, earnest, enthusiastic men, practically trained in the school-room to know the defects of our schools and the best method of remedying these defects. The last addition to the ranks of the Inspectors shows that County Councils are not proving unfaithful to the high trust bestowed on them.

At their late meeting the County Council of Simcoe appointed the Rev. Thomas McKee to the Inspectorship of South Simcoe. It is not often that a County Council has the choice of four or five thoroughly qualified candidates, and it is no small compliment to Mr. McKee that the choice fell on him. We are sure that he will more than justify the confidence placed in him. Mr. McKee brings to the discharge of his new office high character, broad scholarship, long experience, and eminent success in all the positions which he has filled. He is a graduate of the Provincial Normal School, holding the highest grade of certificate. Subsequently he matriculated in the University of Toronto, and as a student of University College his name stands in the honor roll in several departments of study. While prosecuting his literary studies he became a student of Knox College, and in due time became licensed to preach the Gospel. Mr. McKee has been Principal of the public schools in the town of Oshawa, and in the cities of Ottawa and Kingston. While in the latter city he attended lectures in the Medical School with a view of better fitting himself as a teacher of the natural sciences. We cordially congratulate the trustees and teachers, the parents and pupils of South Simcoe on the appointment, feeling assured that the schools of that county will ere long be distinguished for good scholarship and good government.

THE INTERNATIONAL SUNDAY SCHOOL CONVENTION.

The method of Teachers' Conventions, with whose good results in secular teaching our readers are so familiar, has been applied at Toronto with the happiest effect in the Sunday School. Delegates from all parts of this continent met in brotherly union under the presidency of that vigorous, intellectual champion of all good work, Hon. S. H. Blake. The Sunday School has now been in existence for three centuries, since the first one was established, not as is popularly thought by Robert Raikes, but by that good man and friend to children, St. Charles Borromeo, in the Cathedral of Milan. To the Sunday School the secular school is indebted for a model of teaching in which discipline is maintained by love, not by fear. The two schools, the Sunday and the week day, supplement each other; they are engaged in the same all-important work, and should be guided by the same spirit.

—The annual commencement of De La Salle College, Toronto, was held in St. John's Hall, Bond Street, on the 24th ult. His Grace the Archbishop of Toronto presided. A large audience attended, and an excellent programme of readings, recitations and music—vocal and instrumental—was provided. The salutatory address was delivered by Mr. W. Culkin, and the valedictory by Mr. H. W. Brennan. A brief address was delivered by the Archbishop, who referred to the indefatigable and praiseworthy labours of the Christian Brothers in the College during the past twelve months, as shown by the proficiency of the students and pupils in the late examinations. He exhorted the latter to prize the education they were receiving as so much capital upon which they could in future draw to meet every exigency of life. The premiums were then distributed, medals awarded, and diplomas granted to their respective recipients. The music was ably conducted by Mr. J. C. Campbell, leader of La Salle Institute band.

—The exercises in connection with closing the seventh session of the Brantford Young Ladies' College were of an interesting and attractive nature. They included a sermon preached to the graduates by the Rev. Dr. Cochrane, and a concert in Wyckliffe Hall to an appreciative and crowded audience. The commencement proceedings were held in Zion Church, under the presidency of the Rev. D. D. McLeod. Miss Halse, of St. John, N.B., delivered the valedictory essay. Principal McVicar, Moderator of the General Assembly, gave an eminently practical address on Female Education, and spoke in high terms of the college work. The Revs. J. Laing and R. N. Grant also delivered addresses, after which Miss Allport, of Orillia, was presented with the Governor-General's Silver Medal for proficiency at the Toronto University Examination held in the College, and proficiency medals were awarded to Miss A. Chambers, of Paisley, and Miss A. J. Burns, of Toronto. The latter young lady obtained also the medal for mathematics.

—We are glad to learn that Mr. S. P. Davis, M.A., Housemaster of Pickering College, has been promoted to the Principalship vacated by the resignation of Mr. Bryant. Mr. Davis is a Gold Medallist of the University of Toronto, a gentleman of fine culture, an excellent teacher and a thorough disciplinarian. His long experience in the Whitby and Stratford High Schools, and the success which he has everywhere secured as a teacher, have certainly merited for him his appointment, while his practical acquaintance with the workings of the College, and the ability with which he has discharged the duties of the House-mastership, have justified the College Committee in thinking of no other person as Principal. Mr. Davis has been fortunate in the choice of his assistants, having secured as House-master Mr. W. H. Huston, B.A., late Assistant Master in Whitby Collegiate Institute, and as Mathematical Master, Mr. W. V. Wright, of the University of Toronto.

—The assembling together of the Teachers of North Simcoe at their convention, a short time since, was taken advantage of to present their esteemed Inspector, Mr. J. C. Morgan, M.A., with a valuable silver service and a complimentary address. The presentation was made by Mr. Neil Campbell, and the address read by Mr. George Sneath, Jr. The latter was neatly written, and worded as follows:

To J. C. Morgan, Esq., M.A., Inspector of Public Schools, and President of the Teachers' Association of the North Riding of the Co. Simcoe.

DEAR SIR,—The Teachers of the North Riding of the County of Simcoe, of which you have been Inspector for the past ten years, have long felt it their duty to express publicly their sincere appreciation of you as a zealous Inspector, a gentleman in every sense of the word, and a friend most faithful and true. The many personal inconveniences you have incurred in our behalf, both in your educational and social capacities, have created in us a regard and affection for you that no words can thoroughly convey, and in the silent sincerity of our appreciation of you we all hope in our hearts that you may long be spared to the grand cause of education and to the many friends of that cause, in this Riding, whose head and guide you are. A gift of a silver service accompanying this address we trust you will accept as a trifling token of the esteem, admiration and affection in which you are held by us.

Signed on behalf of the Teachers of the North Riding of the County of Simcoe.

N. J. CAMPBELL, Secretary. GEO. SNEATH, Vice-Pres.

—The Church of England school managers and teachers in England meet in convention together for the purpose of considering the best methods of advancing the highest interests of the schools in their charge. This is as it should be. The enemies of the schools unite, why should not their friends do likewise? Many parents, and even some trustees, think that teachers meet in convention with a view to getting the holidays extended, or securing some benefit to themselves at the expense of the public. Would it not be well if, in Canada at least, one trustee from each school section attended the semi-annual meeting of the Teachers' Convention? The programme could be arranged so that one day could be devoted to general business, and the other to strictly professional work. We are convinced that such a course would establish a better understanding among the friends of education.

—Commencement day was celebrated with due honor and ceremony at Whitby Ladies' College, and a large number of the parents and friends of the students assembled to witness the proceedings, which were unusually interesting. Principal Hare presided. The Governor-General's Medal was gained by Miss Hamilton, who also won the Silver Medal, and the diploma of M.L.A. was conferred both on her and Miss Barker, who won the College Gold Medal. The Silver Medal of the College was presented to Miss Jones, by Mr. Holden. The Rev. Mr. Jeffery and Mr. Kerr addressed the audience, eulogizing in high terms the past work of the College, and predicting for it a brilliant future.

—At the close of the proceedings of the Pickering College Literary Society, June 24th, Mr. J. E. Bryant, M.A., lately appointed Principal of Galt Collegiate Institute, was presented by his pupils and friends with an address and an elegant and costly silver tea service; an easy chair was presented to the Superintendent and Matron, Mr. and Mrs. J. N. Richardson; a writing desk and portfolio to Miss Reazin, and six beautifully bound volumes of the poets to Mr. Colin Fraser—gifts that in each instance showed how high a place the recipients held in the estimation of the donors.

—A valuable gold watch and chain were presented to Mr. H. Reazin, Inspector of Schools, West Victoria, by the teachers of his district, at the convention of their Association held in Woodville last month. The presentation was made by Messrs. Cundall and Fowler on behalf of the Association, who expressed the high esteem and respect the teachers entertained for him as a gentleman, a friend, and a public officer. Mr. Reazin acknowledged the compliment paid him in appropriate terms.

ONTARIO TEACHERS' ASSOCIATION.

The annual meeting of the Ontario Association for the advancement of Education will be held in the public hall of the Education Department, Toronto, on the 9th, 10th and 11th August next. S. P. Robins, LL.D., of Montreal, and Joseph Workman, M.D., of Toronto, will address the Association during its meetings, the former on "The Relation of the Will to the Intellect in Education," and the latter on "The Morbid Results of Persistent Over-work." During the afternoon sessions, the following gentlemen will introduce the subjects annexed to their respective names:

David Wilson, LL.D., Pres. University College—"Religious Instruction in the Public Schools."

Mr. James L. Hughes, P.S. Inspector—"Industrial Drawing as Taught in the Public Schools, Toronto," with an exhibition of the work done therein.

Mr. James Mills, M.A., Principal Agricultural College, Guelph —'Agricultural Education in Schools."

Mr. S. S. Herner, Principal Strasburg Public School—"Uniformity of Text-books."

Mr. A. Morrison, Galt—"Physical Education."

The three sections will meet during the forenoon of each day, and the following subjects will be discussed at these meetings:—

P. S. Sections:—"Our Supply of Teachers;" "Representation at Provincial Association;" "Model Schools and Model School Work," and "Entrance Work to High Schools."

H. S. Section:—In this section the principal topics will be the consideration of the reports of the executive committee in reference to the memorandum of the Minister of Education, and of the committee relative to Collegiate Institutes and High Schools.

P. S. Inspectors' Section.—The topics for discussion are:—"How to Make Teachers' Associations Effective;" "A Day's Work in a Public School;" Extension and Endorsation of Certificates;" "How can we Best Help Teachers in their Schools?"

The Grand Trunk, Great Western, Credit Valley, and Toronto and Nipissing Railway Companies will issue return tickets to Toronto at a fare and a third to those wishing to attend the Convention, on presentation to their agents of the required certificates, which may be secured on applying to the secretary, Mr. R. W. Doane, Toronto.

NATIONAL EDUCATION.

PROGRAMME OF NEXT MEETING OF THE NATIONAL EDUCATIONAL ASSOCIATION AT ATLANTA, GA.

We have obtained from Hon. J. H. Smart, president of the Teachers' National Educational Association, the programme of the 20th annual meeting of the Association, which meets at Atlanta, Ga., July 19, 20, 21, 22. It will be seen that the subjects to be discussed are of importance, and that the men selected to speak are among the most prominent educators in the country. The programme is as follows:

TUESDAY, JULY 19.—MORNING SESSION.

Address of Welcome, Hon. Alfred H. Colquitt, Governor of Georgia.

Inaugural Address, by the President of the Association, Hon. J. H. Smart, Indianapolis, Ind.

Paper, "Lines of Advance;" Prof. C. C. Rounds, President Maine Normal School.

Paper, "What shall we Teach in our Elementary Schools?" A. J. Rickoff, LL.D., Supt. of Schools, Cleveland, O.

Afternoon Session.

Department of Elementary Schools.

President's Address, O. V. Tousley, Supt. Schools, Minneapolis, Minn.

Paper, "Philosophy of Illustration;" Hon. J. J. Burns, ex-State Commissioner of Schools, Columbus, O.

Paper, "Education of the Sensibilities;" John W. Dowd, Supt. of Public Schools, Toledo, Ohio.

Paper, "Scientific Education;" Hon. Charles L. Loos, member of State Board of Examiners, Dayton, O.

Evening Session.

Address, "Education and the Building of the State;" Hon. Jno. Eaton, United States Commissioner of Education, Washington, D.C.

WEDNESDAY, JULY 20.—MORNING SESSION.

Paper, "Some Essentials in the Development of a School System;" Hon. D. F. DeWolfe, State Commissioner of Schools, Ohio.

Paper, "The Teacher's Work in the Development of Mental Power;" N. A. Calkins, LL.D., Assistant Supt. of New York City Schools.

Paper, "A Proposed Revision of the Common School Curriculum;" Hon. M. A. Newall, LL.D., Supt. of Schools, Maryland.

Afternoon Session.—Department of Higher Education.

President's Address, Rev. Lemuel Moss, D.D., Prest. Ind. State Univ.

Paper, "The Study of Political Science in Colleges;" J. W. Andrews, LL. D., President College, Marietta, Ohio.

Paper, "Motive Power in the Building of Institutions;" Hon. D. P. Baldwin, LL.D., Attorney-General of Indiana.

Paper, Rev. H. H. Tucker, D.D., LL.D., Atlanta, Ga.

Evening Session.

Paper, "The Necessity for Spelling Reform."

Address, "Is the same System of Common School Education possible in all the States?" William C. P. Breckinridge, Esq., Lexington, Ky.

THURSDAY, JULY 21.—MORNING SESSION.

Paper, "Moral and Literary Training in the Public Schools;" John B. Peaslee, LL.D., Supt. of City Schools, Cincinnati, Ohio.

Paper, "The Effect of Student Life on the Eyesight" A. W Calhoun, M.D. Atlanta, Ga.

Paper, "Popular Education the Condition of National Success;" Hon. James W. Patterson, LL.D., Supt. of Public Instruction, N.H.

Afternoon Session.—Department of Normal Schools.

Paper, "Normal Principles of Education;" Prof. Jno. Johonnot, Ithaca, N.Y.

Paper, "What Constitutes a Normal School?" Prof. J. C. Gilchrist, President Iowa State Normal School.

Paper, "The best Normal Training for Country Teachers;" Prof. T. C. H. Vance, editor *Eclectic Teacher*, Lexington, Ky.

Paper, "The Best Normal Training for City Teachers;" John Kennedy, New York City.

Evening Session.

Lecture, "An Evening in Wonderland;" William T. Marshall Springfield, Mass.

FRIDAY, JULY 22.—MORNING SESSION.

Paper, "Prof. Louis Soldan, Prin. City Normal Schools, St. Louis, Mo.

Paper, "The Leading Characteristics of American Systems of Public Education;" Hon. J. P. Wickersham, LL.D., ex-State Supt. Public Instruction, Pennsylvania.

Paper, "The Lessons of the International Educational Congress at Brussels;" Wm. T. Harris, LL.D., St. Louis, Mo.

Afternoon Session.—Department of Industrial Education.

Paper, "The Need of a System of Special Technical Schools;" Hon. S. R. Thompson, State Supt. Public Instruction, Nebraska. Discussion.

Paper, "The Decay of Apprenticeship: Its Causes and Remedies,

During the Session of the Association a printed report on the "Relation of Education to Crime" will be presented by a committee, of which Hon. J. P. Wickersham is chairman.

Senator Jos. E. Brown, and Hon. Alex. H. Stephens, and President Garfield have been invited to attend the meetings of the Association.

The Board of Directors will meet at the Markham House, on Monday evening, July 18.

The National Council of Education will meet on Monday, July 18, at 2 o'clock p.m.

The International Spelling Reform Association, will meet on Monday, July 18, at 10 o'clock, a.m.

Contributions and Correspondence.

THE TONIC SOL-FA SYSTEM.

BY T. F. SEWARD, ORANGE, N.J.

The Tonic Sol-fa system of teaching music is attracting much attention at the present time, and doubtless any light thrown upon the subject will be welcomed by the readers of this JOURNAL. I have tested the system thoroughly during the past year, and find it to be all and more than is claimed for it. I have taught it in two large public schools, in four private schools, and in various evening classes, in the old-fashioned singing-school style. The results are truly remarkable, and if the time-worn ejaculation *eureka* can ever be permitted in these modern times, it must be employed in this case. It is the first thought of every earnest teacher who begins to use the system, and sees the capabilities opening before him, "We have found it." And what have we found that stirs our enthusiasm to such an unwonted degree?

We have found something that makes music just as simple as we have always in our hearts believed it to be, but which the old methods have tried to prove it *not* to be, and have, unfortunately, succeeded quite too well in the false impression they have created in the public mind.

I will not occupy your valuable space with any theories of my own, but simply state what the Tonic Sol-fa system invariably proves wherever it is intelligently used.

1. It proves that the study of music can be made just as easy and comprehensible to the average mind as any other study.

2. It proves that music is a language, and that the reading of that language can be made as much a matter of certainty as the reading of English or French, and in much less time.

3. It proves itself to be, in the highest and best sense of the term, *a natural method* of study, and demonstrates that only by such a method can the mysteries of the staff notation be grasped by nineteen-twentieths of the human race.

4. It proves that, because it is a natural method, a good teacher can teach it whether especially musical or not, (given, of course, sufficient musical ear to sing the scale correctly).

Heretofore, by reason of the complications of the staff notation, none but musicians could undertake to teach music. Yet, one may be a thorough musician and yet lack every qualification of a good teacher. Tonic Sol-fa puts the subject in such a shape that the *teacher* can teach it. As this is an educational journal, the importance of the above principle will be recognized without any necessity for further explanation. At a concert at our public hall on the 16th of this month, I gave a demonstration of the Tonic Sol-fa system and its results.

The class of nearly 100 sang with great accuracy diatonic and chromatic tones in every possible order, as called for by name and by "manual signs."

Changes of key were made in obedience to signs of the hand so rapidly that no professional musician could follow them. A sight-reading exercise is thus described by one of our local papers:

"The climax was reached when folded papers containing an original exercise, filled with all manner of flats and sharps and naturals were passed to the pupils, opened at a given signal, and sung at first sight by the full chorus without the least hesitation. Copies of the music, in staff notation, were in the hands of the audience, and the accuracy of the rendering was apparent to every one at all acquainted with music. It seemed almost incredible that these pupils had not previously seen and practiced this exercise, but we are assured that they knew nothing of its character, and certainly they were not given time even to look it through. Prof. Seward, moreover, informed the audience that he had shown the exercise, after composing it, to a number of professional musicians, and not one of them had been able to read it at sight. There must be some unrecognized excellence in a system which can thus unable children to overcome the ordinary difficulties of singing by note, and render a piece full of accidentals without hesitation or mistake." A very important question—one which may be regarded as a test question as to the adaptibility of the Tonic Sol-fa system to public schools is this—"What impression does it make upon the regular teachers, who must direct the daily practice, if there is any, and who are the best judges of the practical results of the system?" My answer to that question is the following testimonial, in my possession, which is signed by *every teacher* who had anything to do with the music in the six schools in which the system has been taught:

"We, the undersigned, having witnessed the results of the Tonic Sol-fa system of teaching music in our schools during the past year, gladly give our testimony to the value of the system. It presents the facts and principles of music so naturally that all classes of minds seem to grasp them with ease and pleasure. It is so easily comprehended that the interest of the pupil is awakened at once, and is never afterwards diminished. Classes are enthusiastic in the study where they were formerly indifferent and restless. The ability to read music seems to be placed by this method on the same plane as the reading of a language, and we can see no reason why it should not become as univer-

sal. The longer the study of the system is continued, the greater is the development of intelligence in the pupil, and the results become more suprising with each step of progress that is made."

I do not wish to trespass upon your space, but if music is thus brought within the reach of all, the "good news" ought certainly to be spread far and wide. I expect to teach the system at Chautauqua this summer, both during the "Teacher's Retreat" and the "Assembly." This will afford an opportunity for many teachers to acquire it sufficiently to begin at once to use it in their schools.

THE DUTY OF THE TEACHER TO THE PROFESSION.

BY MISS HATTIE H. HICKCOX, ST. THOMAS, ONT.

To accept a trust, without an honest purpose to fulfil the obligations thereby assumed, argues unfitness for office, through lack of integrity, sound principle, or it may be, lack of energy. Our acceptance of life and its responsibilities was involuntary. Shall we therefore say, it may be a failure or otherwise as idle chance may determine? If, in the early morning, we drifted gaily along, stopping to gather the wayside delights, never thinking that the sunny stream was on its way to the mighty ocean, where with strenuous efforts we must battle for life, we have been disenchanted. We have come to see, that to obtain honour or distinction, we must combat with indolence, ignorance, and incapacity, finding upon the summit of each surmounted difficulty the base of another, which widens and stretches as we survey its dimensions. Shall we falter? Have we not accepted life and its obligations? Though the top of the Hill of Science be mist-encircled, and we may never hope to gain the summit in this world, by pains-taking effort, we may gain some goodly eminence. Helping hands are extended. Kindly words are spoken. Step by step, light arises. With way-faring friends we linger in some sunny path to gather ideal delights by the way, looking backward to speak encouraging words to some toiler below us. And lo! we find our vocation, or as one mighty in words has termed it, the New Profession, in learning which there are royal helps. But at the outset we find that it is required of us not only that we bring acquired ability, but the natural gifts of long-suffering, patience, gentleness, kindly-winning manners, and a host of other virtues. We hesitate, no doubt, as to whether we possess these requirements, and the saying of some forgotten author occurs to us, "Diffidence of our abilities is a mark of wisdom." Again we hesitate. Was this written to mislead our stupidity or to encourage real merit. We follow the guiding hand, resolved that persevering effort shall do what it can, to make up the deficit in natural gifts.

What is teaching? Is it a stepping stone to some higher position in life? Is it a process of cramming and packing the minds of the pupils with book knowledge? Or has it for its object the greatest of all causes, that of human improvement. You reply that it is a profession, and should have the strongest and most enduring claim upon the community. It is not a means of progress, it is not a ceremony of governing and drilling, but a vocation worthy to take a foremost rank in the world, How very few realize the wonderful import of the word "Teach." "To instruct, to inform, to deliver instruction" are generally given as meanings, yet they only express in a small degree its *true* significance. Even Plato, Socrates, Pestalozzi, Carlyle and others, whose quaint intellectual powers and attainments were devoted to the improvement of mankind, but faintly understood the relation of the teacher to the world. With many, to possess a certificate is a sure guarantee that they have the true requisite of a teacher. At any rate, they can make use of it until something better is provided for their maintenance, and this proves to be one of the greatest drawbacks to our profession. A young man especially, having obtained a certificate, applies for a school and receives the appointment. He is not actuated by any love for work, but in some manner gets through with the school routine, looking and hoping in the meantime for a more remunerative employment. He may be said to *keep* school not to *teach*. I do not say that this is the case with every young teacher, but it holds true with a great many.

The preparation for teaching does not end when the certificate is obtained and school left behind. It should continue while teaching lasts, and he who is content if he make no further effort toward perfection, is not worthy of the name of teacher. When we read that methods of harvesting wheat have been brought to perfection, is it wrong or ridiculous to suppose that phases of instruction can not be improved? Must we believe that no one is capable of surpassing the old manner of teaching both in theory and in practice? That there is no "royal road to learning" is perhaps true in the sense that no excellence is obtained without labour, but there are *royal* aids to learning, and it is the duty of every teacher to avail themselves of these aids. Think of the precious material over which we are placed, and out of which we are to mould characters that will do honour to the nation. Oh that we could all realize the responsibilities of our work, that it is for us to make or to mar the future of those placed in our charge by our influence and teaching. It is essential then, that we should seek to improve ourselves in our chosen work. We should be familiar with the noblest thoughts and deeds of our own and past ages. Histories, biographies and books of poems, should be the companions of our leisure moments, and by such means, let each one see what he or she can do to bring honour upon the profession. Let us not be content to take for our model some teacher whom we fancy has reached a high state of perfection, but let our ambition to be a *better* teacher impel us to renewed efforts in the race for perfection. To desire to become worthy of the name of teacher and to strive zealously for the end in view, is certain to win success, for it is said, "To covet earnestly is finally to possess." "Be not like dumb-driven cattle, be a hero in the strife."

Foremost among the royal helps to the profession is our County Teachers' Association, which one has fitly called the "Home mission work in the cause of education." Yet how frequently do we hear teachers say that the meetings are very uninteresting, and were it not that holidays were given they would not go. We would like to confront each and every one of this class with the enquiry, "Whose fault is it that they are so uninteresting?" Shall the blame be laid upon those whose duty it is to arrange the programme They provide speakers for the occasion, and for weeks are devising plans for making the meeting successful. Then *they* should not receive the censure of these fault-finders. The responsibility of an interesting and instructive convention rests alone upon those who attend. Let us not go with indifferent and inattentive minds, but with the firm intentions both to give and receive aid. Each should go as one diligently seeking hidden treasures, and in seeking we shall find. We should go with minds prepared to *act* upon the hints and instruction given. If we attend with a desire to improve, to learn, surely we shall not have an opportunity of saying the meetings are not valued aids to the teacher. After this the foremost thought should be, "How can I present the truth to my pupils in a more interesting and successful manner?" Let us teach them what they will understand in *simplest* words, which will sink into their souls and lay strong hold upon their hearts. Truth requires plain words. Let us teach them that there is something *above* and *beyond* the knowledge contained in school books. Let us teach them goodness, kindness of heart and gentleness. Let us

train the *eyes* as well as the minds of our pupils to see and appreciate the beauties of nature. Let us not be content with that narrow, contracted form of education that fits the pupil only for the examination, although in the pursuit of a more general training this is a most important item, but a *broad*, comprehensive education, fitting them for the duties and obligations of life. That teacher is fortunate who can impart knowledge from the storehouse of ideas so as to charm the heart and chain the mind of his listeners. And whether your subject be simple or difficult, be earnest in your explanation. If we are not earnest in what we undertake, we can never accomplish any great or good thing, and never reach the goal of our ambition. We may at times feel that our work is monotonous, and we would be glad to escape from the labor that is grinding the life and spirit out of us. We should make an effort of will, and if it indeed be a labor of love, if indeed teaching be our vocation, these feelings of depression will pass away.

To the conscientious painstaking worker the world accords honor, but dearer than this is the delight of being at peace with ourselves, for only in the faithful discharge of the daily duties of life can contentment be our pillow of rest at night. Convictions of duty, even faithful administrations on the part of the teacher, will not reclaim the wandering. We must ourselves be *energetic, thoroughly* in *earnest*, living exemplifications of what we teach.

"Thou must be true thyself
If thou the truth would'st teach,
Thy soul must overflow if thou
Another soul would'st reach.
It needs the overflowing heart
To give the lips full speech.

Think truly, and thy thought
Shall the world's famine feed;
Speak truly, and each word of thine
Shall be a fruitful seed.
Live truly, and thy life shall be
A great and noble creed."

"OH YES, LEARNING'S A VERY FINE THING!"

[The following communication is inserted because it is our desire to allow the presentation of all sides of the educational question. It is hardly necessary to say that we do not agree with all the writer says. Bilious politicians and dyspeptics of all classes will long continue to assail our Public Schools. Teachers should read their denunciations with a view of gleaning some stray thought which may serve to turn them from an erroneous course, but we should never let their wailings shake our faith in our system or ourselves.—Ed.]

Sir,—We live in the little town of W——, in Western Ontario. A short time since one of the inspectors paid our high school a visit. After examining the pupils he addressed them in the usual complimentary manner for a few minutes to their great satisfaction. A gentleman of our town, a lawyer, who was present during the inspection, then delivered a short address. This gentleman is a member of the local legislature, and is well known for the great interest he takes in educational matters whenever they are discussed by that august body. His speech on the occasion referred to contained the usual number of extravagant statements in regard to the unmixed benefit which a nation derives from its educated citizens. It is nearly time that this everlasting palaver about the heavenly-mindedness and general goody-goodiness of the educated portion of our community was at a discount. We admit that a system of education might be conceived of which would produce the desirable results mentioned by the speaker, but that system is not ours. What the education of its citizens should do for a nation, and what it is doing for us, are quite different matters. Knowledge is power indeed, but in the words of Franklin, knowlege without principle will make a man a *power*ful villain! Common sense, which by the way is remarkably uncommon, teaches that the ordinary educational institutions of our country that is,—the high and public schools,—should develop such traits of character as are commendable, impart such knowledge and train such faculties as will prove of service in the ordinary pursuits of life. But we do everything but that.

Is it a commendable trait to have a steadfast hatred of lying, dishonesty, rowdyism, and vice in any of its thousand forms? In our schools we develop these evils in various ways. The boy who tells the cleverest lies escapes with the slightest punishment for his misdeeds, while the straightforward lad who, when duty requires it, exposes the ill-doings of his schoolmates, is upbraided by the teacher and "thumped" by the boys for telling. In the examinations for entrance to high schools, for the Intermediate standing, or in the ordinary written examinations of our high or public schools, the pupil who copies the most takes the highest rank, and is complimented on every side for his cleverness, while the honest hardworking pupil is jeered at for his stupidity. The teacher and the examiner wink at such dishonesty, or turn their backs lest they should see it.

Petty pilfering is constantly going on in our schools, and in nearly every case the thief is the gainer. Either it is too much trouble to find out the offender, or such a character has been developed in the pupils that it would be impossible to discover him; for to tell would be "tattling," you know! The biggest rowdy has the "best time," for he knocks the others around as he pleases, and they are afraid to complain to the master, or they have found that their complaints are not attended to. Is it any wonder then that such a system of education has produced for us business men whose word is *not* so good as their note, and the swindler, the forger, the embezzler, and the full-fledged society rowdy?

Our clever boys and girls learn to ridicule the old-fashioned ideas of their parents, to sneer at their errors in pronunciation and syntax, and to show too plainly by their conduct that they despise all such people for their ignorance. From the primary school boy to the college undergraduate, it is the special pride and peculiar privilege of many of our educated youths to insult people on the street and in society, to disturb public meetings, and to conduct themselves in such a manner in their lodgings, that only poverty compels the long-suffering proprietor to endure their presence. Their education appears to convince many young ladies that they have a right to walk arm in arm down the pavement, and compel the "ignorant vulgar" to step down and off in order to pass them. They have not enough book-keeping and common sense to know that they are dragging their parents down to ruin by their extravagance in dress and by their "fast" living in general. Master John has too much "culture" to saw wood or run errands any longer, and Miss Jane is too "accomplished" now to wash dishes or darn stockings for her poor weary mother. But John has read Greek, and he knows why "philosopher" is spelt with "ph," while "fool" has only plain "f," and Jane can gibber French, spoil good drawing paper or torture a mortgaged piano, and isn't that a grand thing? Thus it is that we develop in our children such traits as are commendable!

Will a knowledge of the laws of health prove of any use to our young people? Well, but they don't learn that; they don't know that dyspepsia kills more people than starvation; our young women don't understand the evils of tight lacing, nor our young men those of "sowing wild oats." But they at least know the

names of all the frog-ponds of Greece and the mountains of the moon. They could also demonstrate to us by the aid of the higher mathematics that the sun is 91,000,000 of miles distant, and it might be a foot or two more! Further, teachers and professors impress upon the student the ridiculous fancy that if he destroys his health or even his life in the pursuit of knowledge, he is a glorified martyr, and his conduct praiseworthy in the highest degree. This is how we teach the laws of health in our schools.

Is it important that our young people have an acquaintance with standard English literature, or that they should be able to express their thoughts correctly in speaking or writing? Yes, but many of them don't know whether "Hamlet" was written by Tennyson or Longfellow; they were never taught the difference in point of merit between Gray's "Elegy" and a scurrilous street ballad, and the "Boys of England" or "Bow Bells" forms their choicest reading. Still, they can tell you the rules for determining the gender of Latin nouns, they know all about the structure of a Greek theatre, and they have read some outrageously indecent Latin poetry.

Will any of our youth now attending school or college be likely to grow up to maturity and become the parents of a new generation? If so, the more advanced classes at least should learn something about the proper rearing and management of children, and how their moral, intellectual, and physical natures may be properly developed. But, forsooth, it would be indelicate to introduce such a subject of study to young ladies and gentlemen! And so as time goes on, and one generation gives place to another, unavoidably ignorant were our grandfathers, listlessly ignorant were our fathers, and perversely ignorant are we on this most vital question. This is the way our system of education provides for the proper training of the coming generation. Don't you believe it? Look around you and see that frequently, if not generally, the children of our best educated citizens are among the rudest and most ungovernable that can be found anywhere. Of course there are honorable exceptions.

Would it be wise to educate our children to become useful and intelligent citizens, to know the duties they owe to foreign nations, to their own State, and to one another as fellow-citizens of it? Perhaps. But we teach our children that foreign nations have no rights that we are bound to respect unless they are backed by heavy artillery; we are to respect Russia and Prussia because we can't help ourselves; but it's the regular Anglo-Saxon style, and quite legitimate too, to pounce upon the territories of a Prince of India or a Chief of Kaffraria just whenever it suits our sweet pleasure. We must always stand up for our country, and that is of course for our political party; it is high treason to have any private opinions. Our motto is, "Our country, right or wrong!" We shut our eyes and go ahead. Moreover, our children know nothing about the Canadian Family Compact or the repeal of the Corn Laws, but they can tell you that on the 5th of November, B. C. 2031, Kompownd Stuffandnonsense was crowned King of the Cannibal Islands; and they know "who struck Billy Patterson!" And as for our duties to one another as fellow-citizens, our education does not teach us any better than that it is our highest duty as good Grits to vilify and misrepresent the Tories, and that our greatest happiness as Conservatives consists in black-washing those low-bred Reformers. We know not that we are the dupes of a few politically rabid newspaper editors and designing demagogues, who pocket our money and laugh with each other over our marvellous simplicity. Ninety-nine out of one hundred of our young citizens, ay, and of our old ones too, could not tell for their lives the fundamental principles which distinguish the two political parties, if indeed the difference consists of principle at all. But they *have* learnt that it makes a very great difference as to what is right or wrong politically—whether my party is in power or yours. Thus it is that education makes us good citizens.

But the grand mistake of our educational system is that it does not impress upon our boys and girls the fact of the dignity of labor. On the contrary, they are taught indirectly to despise any form of manual labor. As a consequence, the country is full of starving lawyers, poverty-stricken doctors, and impecunious school-teachers, while book-keepers and clerks out of employment literally swarm in all our large cities. The country school-teacher works upon the vanity of the farmer by telling him that *his* boy is too clever to till the soil, and so a good farmer is spoiled and a bad doctor "manufactured." Yes, "manufactured," for, with others equally foolish, he is shovelled into the hopper of the great educational mill, and the teacher or professor turns the handle. When the mechanic's son goes to a high school to obtain an education that would fit him somewhat for an ordinary station in life, he is coaxed and flattered by the teachers into studying the "ics" and the "ologies," and the result is that observers say that another "dull predestinated fool has been dragged through Learning's halls." But in fact the boy is not the fool at all. His parents and teachers have a more just claim to that title, because they did not educate those faculties with which nature had endowed him. Indeed the process generally pursued is not education, but *incrammation*.

Our Legislatures are as much to blame for this state of affairs as are our teachers. The former assign the subjects to be studied; the sole business of the latter is to teach them. And while our law-makers are so completely satisfied with the present system as the gentleman referred to at the beginning of this article seems to be, we may not hope for improvement. On the other hand, we regret to say that too many teachers do not avail themselves to the full extent of the opportunities which the law affords them to give a really useful education to their pupils. They do not take the trouble to think which of the different optional subjects assigned by law would probably be of most service to any particular pupil. So, consulting his own inclinations rather than the pupil's interest, he teaches Conic Sections to the one who intends to be a merchant, and the declensions of Anglo-Saxon nouns to the other who wishes to become a carpenter!

But some one will say that education is not intended to impart any knowledge to our young people that might prove useful to them in after life, but only to train their mental faculties, that these may the more readily serve them as occasion requires. Any sensible system of education would combine these two excellencies. Just as much mental discipline is acquired in learning a useful fact as a useless one, but if not, why we can at least take another, since the stock is unlimited. The farmer may till a field after the most approved fashion, the rains and the dews may water it, but if he hasn't put any seed in the ground he will look in vain for a harvest. Such folly is left for the educationist. Nor does our Canadian champion strengthen his muscle for boat-racing by pounding iron on an anvil. He gets into a boat and takes hold of a pair of oars. As in the education of the body, so it is in the education of the mind. Whatever we wish our children to do or to know, we must set them right at it.

We think, then, that the candid reader will admit that with regard to what is called education, we as a nation are educated to death. If we have convinced our legal friends that the Ontario System will bear improvement, our end is attained. Yours truly,

DON QUIXOTE.

To the Editor of the Canada School Journal.

DEAR SIR,—I am of opinion that were it imperative that every teacher who had obtained a provincial certificate should pass a written examination once a year upon some one subject of the

teachers' course of study, and that all the subjects should be taken up in turn, a lively impulse would be given to private study that would in time produce a wonderful advancement in scholarship among teachers, many of whom would be glad to have mapped out for them a comprehensive course of study, that could be pursued in annual courses with a suitable examination at the end of each year's study, and a neat certificate of standing in reward therefor.

Yours truly, W. S. HOWELL, Milford.

Examination Questions.

TORONTO PUBLIC SCHOOLS.

COMBINED EXAMINATION, JUNE 23RD AND 24TH, 1881.

ARITHMETIC.

FIRST DIVISION.—[THE WORK IS REQUIRED.]

1. Reduce 100 half guineas to four-penny-pieces; 4 tons, 3 cwt., 2 qrs., 1 lb. to drams (cwt. = 112 lbs.); $697\frac{1}{2}$ acres to square yards.
2. A person bought 1,008 articles for $3,072; before they were all disposed of, 48 were lost; at what rate must he sell each of the remainder, that on the whole he may gain $240?
3. Required the G.C.M. of 6,327 and 23,997; also the L.C.M. of 9, 16, 42, 63, 21, 14, 72.
4. (1) Show how to compare fractions, giving the reason for each part of the operation.
   (2) Find the value of $\frac{11}{17}+\frac{31}{51}+\frac{266}{357}+3\frac{5}{13}+\frac{24}{39}$.
5. Find value of $1\frac{2}{3}$ of $\cdot\dot{5}\dot{3}$ of $\cdot\dot{8}2\dot{5}$ of 100 tons, (cwt. = 100lbs.)
6. A merchant sells an article for $5.00, and loses ten per cent. What will the percentage of gain or loss be if he sell it for $7.00?
7. The breadth of a room is half as much again as its height; its length is twice its height; it costs $25.20 to paint its walls at $2\frac{1}{2}$cts. per square foot; what are its dimensions?
8. Three men can do as much work as 5 boys; the wages of 3 boys are equal to those of two men. A work on which 40 boys and 15 men are employed takes 8 weeks and costs $1,680; how long would it take if 20 boys and 20 men were employed, and how much would it cost?
9. If the price of the Dominion 6% stock be 106, a person can obtain an annual income of $5.00 more than he can if the price be 107. How much has he to invest?

[Same paper for Second Division, except that No. 8 is omitted.]

THIRD DIVISION.—[THE WORK IS REQUIRED.]

1. Add together fifty millions, ten thousand and two; fifty thousand and five; two hundred millions and eighty; one billion, one hundred millions, and sixty-nine; fifty-four millions, fifty thousand and fifty; ten billions, eight hundred and sixty-five thousand and sixty.
2. Find the sum, difference, and product of 2,060,897 and 4,000,908.
3. Reduce 100 half guineas to four-penny-pieces; 4 tons, 3 cwt., 2 qrs., 1 lb. to drams (cwt. = 112 lbs.); $697\frac{1}{2}$ acres to square yards.
4. A person bought 1,008 articles for $3,072; before they were all disposed of 48 were lost; at what rate must he sell each of the remainder that on the whole he may gain $240?
5. Required the G. C. M. of 6,327 and 23,997; also the L. C. M. of 9, 16, 42, 63, 21, 14, 72.
6. (1) Show how to compare fractions, giving the reason for each part of the operation.
   (2) Find the value of $\frac{11}{17}+\frac{31}{51}+\frac{266}{357}+3\frac{5}{13}+\frac{24}{39}$.
7. The breadth of a room is half as much again as its height; its length is twice its height; it costs $25.20 to paint its walls at $2\frac{1}{2}$ cents per square foot; what are its dimensions?

FOURTH DIVISION. [THE WORK IS REQUIRED.]

1. Add together fifty millions, ten thousand and two; fifty thousand and five; two hundred millions and eighty; one billion, one hundred millions, and sixty-nine; fifty-four millions, fifty thousand and fifty; ten billions, eight hundred and sixty-five thousand and sixty.
2. Find the sum, difference, and product of 2,060,897 and 4,000,908.
3. Reduce 100 half guineas to four-penny-pieces; 4 tons, 3 cwt., 2 qrs., 1 lb. to drams (cwt. = 112 lbs.); $697\frac{1}{2}$ acres to square yards.
4. A person bought 1,008 articles for $3,672; before they were all disposed of 48 were lost; at what rate must he sell each of the remainder that on the whole he may gain $240?
5. Required the G. C. M. of 6,327 and 23,997; also the L. C. M. of 9, 16, 42, 63, 21, 14, 72.
6. Find the value of $\frac{11}{17}+\frac{31}{51}+\frac{266}{357}+3\frac{5}{13}+\frac{24}{39}$.

ALGEBRA.

FIRST AND SECOND DIVISIONS.

FIRST DIVISION will take Nos. 1, 3, 4, 6, 7, 8.
SECOND DIVISION will take Nos. 1, 2, 3, 4, 5, 6.

1. Simplify $15x-\{4-[3-5x-(3x-7)]\}$.
2. Multiply $x^2+2ax+3a^2$ by $x^2-2ax+a^2$.
3. From $\frac{1+x}{1+x+x^2}$ take $\frac{1-x}{1-x+x^2}$.
4. Divide $3x^2+4abx^2-6a^2b^2x-4a^2b^2$ by $2ab+x$.
5. $\frac{1}{2}x+\frac{1}{3}x=x-7$. Find the value of x.
6. A can correct 70 pages for the press in $1\frac{1}{2}$ hour, B can correct 150 pages in $2\frac{1}{4}$ hours; how long will they be in correcting 425 pages jointly?
7. $\frac{(2x+3)x}{2x+1}+\frac{1}{3x}=x+1$. Find x.
8. $x^2-12x=-35$. Find x.

THIRD DIVISION.

1. Find the value of $2\sqrt{d-b}+3\sqrt{3d+2c-1}+4\sqrt{a+b+2c+d}$ when $a=0$ $b=2$ $c=4$ and $d=6$.
2. Find the product of $a-b$ by $a+b$.
3. Find the difference between $x-3y+4z$ and $x+2y-6z$.
4. Divide $x^4+y^4-z^4+2x^2y^2-2z^2-1$ by $x^2+y^2-z^2-1$.
5. Find the value of x in the equation, $4x+9=8x-3$.

EUCLID.

FIRST AND SECOND DIVISIONS.

1. Define a right angle, parallel straight lines, diameter of a circle.
2. If there be two triangles which have two sides of the one equal to two sides of the other, each to each, and have their bases equal, the angle contained by the two sides of the one shall be equal to the angle contained by the two sides equal to them of the other.
3. Make a parallelogram equal to a given triangle and having one of its angles equal to a rectilineal angle.
4. If a straight line be divided into two equal parts and also into two unequal parts; the rectangle contained by the unequal parts, together with the square on the line between the points of section, is equal to the square on half the line.

ENGLISH GRAMMAR AND COMPOSITION.

FIRST AND SECOND DIVISIONS.

1. Define case, indicative mood, sentence.
2. Give the singular of indices, banditti, genera; the plural of church, stomach, penny; the possessive plural of cousin, country, child; the past tense and past participle of do, send, flee; comparative and superlative of tidy, evil, nigh.
3. What is voice? How is the passive voice formed?
4. Change the construction in regard to voice in the following sentences:
   The youth read the book and then returned it to the library.
   The work was done by the contractor within the specified time.
5. *Not a drum* was heard, not a *funeral note*,
   As *his corse* to the ramparts we hurried;
   Not a soldier discharged his farewell *shot*
   O'er the *grave* where our *hero* we buried.

   "*Tis distance lends* enchantment to the view,
   And *robes* the mountain in its azure hue.

   Parse the words in italics in the above passages and analyze the first stanza.
6. Correct anything faulty in the following sentences, giving your reasons for the changes you make:
   Who should I meet the other day but my old school-mate.
   If I had not broke your stick you would never have ran home nor began to tell those kind of stories which nobody but foolish men believe.

7. Write a short composition on one of the following subjects:
Honesty is the best policy.
The power of Habit.
A visit to the Island South of Toronto Bay.

THIRD AND FOURTH DIVISIONS.

1. Define case, orthography, transitive verb, person.
2. Give the plural of attorney, shelf, duty; the singular of clothes, brethren, data; the past tense and past participle of slay, ride, fly; comparative and superlative of heavy, old, many.
3. What is voice? How is the passive voice formed?
4. Change the construction, in regard to voice, in the following sentences:
James wrote the letter and carried it to the post-office.
That work was done by Thomas and his brother.
5. *Towards* the West *lies* the *fertile shore that* stretches along the Adriatic *where ripen* the rich *fruits* of the South.
Analyse the above passage, and parse the words in *Italics.*
6. It was me who steered the boat, but him and his brother that rowed.
A systematic and methodical arrangement of particulars facilitate the completion of the entire work.
As neither John nor Thomas are going, let you and I go.
7. Write a short composition on one of the following subjects:
A house on fire.
A ramble in the country.
A visit to the Island south of Toronto Bay.
The FOURTH DIVISION will omit number 6.

GEOGRAPHY.

FIRST AND SECOND DIVISIONS.

FIRST DIVISION will take Nos. 1, 2, 3, 4, 7, 8, 10, 11.
SECOND DIVISION will take Nos. 5, 6, 8, 9, 10, 11, 12, 13.

1. Give the name of the mountain ranges on the north and south of the lower St. Lawrence. State the difference of their geological character, and give the meaning of Azoic as applied to rocks.
2. At what angle is the axis of the earth to the plane of its orbit? To what motion of the earth are day and night due, and to what motion are summer and winter due?
3. Which planets are smaller and which larger than the earth?
4. Name the four great regions into which the North American Continent is divided.
5. In what lake does the Ottawa rise? What are its tributaries from the South?
6. Name the Counties of Ontario which border on Lake Erie.
7. Give the course of the Mississippi; its chief tributaries, and the four largest cities on its banks.
8. Give the boundaries of Yorkshire, the names of its five largest cities and towns, and mention the industries for which each is distinguished.
9. Give the situation of Madagascar, Anticosti, Malta, the Falkland Isles, Tasmania.
10. In what countries and on what waters are the following places situated: Glasgow, Hull, Coblentz, Delhi, Monte Video, Londonderry, Vienna, Lyons, Mecca, Hong Kong?
11. What are the principal exports from Italy, and what are those from Australia?
12. What is the Ecliptic?
13. Within what zones are the following countries situated: Borneo, New Zealand, Great Britain, Greenland?

THIRD AND FOURTH DIVISIONS.

THIRD DIVISION will take Nos. 1, 2, 3, 4, 5, 6, 7, 8.
FOURTH DIVISION will take Nos. 6, 7, 8, 9, 10, 11.

1. Mention the names and general direction of the two principal mountain chains in Asia.
2. Describe the course of the Indus, and give the situation of Calcutta, Cabul, and Canton.
3. What is the principal river in Southern Africa, and in what direction does it flow?
4. Name the States in Northern Africa called the Barbary States.
5. Name the main divisions of Australia, and give the capital of each.
6. Give the names of the Provinces into which Ireland is divided, and the name of the largest city in each.
7. What large rivers flow into the Caspian Sea, the Black Sea, and the Bay of Biscay?
8. Give the situation of the following places: Three Rivers, Fredericton, Halifax, Rio Janeiro, New Orleans, Berne, Prague, Milan, Aberdeen, Cambridge, Bristol.
9. Name the Eastern or New England States, and give the capital of each.
10. Name the principal Islands off the East Coast of North America.
11. What are parallels of latitude and longitude? Give, as nearly as you can recollect, the latitude of New York, Montreal, London, and St. Petersburg.

HISTORY.

FIRST DIVISION.

1. Name some principal event in the reign of William the Conqueror, John, Edward II., Henry V., Henry VIII., Mary, Elizabeth.
2. Give the names, in order, of the Stuart Kings, and the date of the Stuart Period.
3. From A. D. 1629 to 1640, Charles I. held no Parliament. Why?
4. State the principal cause that led to the Civil War of 1642.
5. What battle closed the Civil War, and what followed?
6. What events of English History mark the period of the Commonwealth?
7. What is the nature of the Test Act, and the Habeas Corpus Act?
8. How long did the French govern Canada?
9. What do you know of General Brock? Lord Monk?

SECOND DIVISION.

1. What principal events are the following names connected with: William Tyndale, John Wycliffe and Martin Luther?
2. Who founded the order of the Jesuits?
3. For what were the Waldensians noted? also the Huguenots?
4. When did Spain lose the Straits of Gibraltar?
5. In the reign of Elizabeth, Queen of England, what event transpired affecting the power of Spain?
6. Give a brief account of the life of Napoleon Bonaparte.

THIRD DIVISION.

1. Name the first principal nation that occupied a place in Europe. What nation succeeded and surpassed it in greatness?
2. In the wars between Greece and Persia what three principal battles were fought? Name the Grecian commander in those battles.
3. What caused the Peloponnesian war? How long did it last?
4. Tell what you know of Alexander the Great.
5. Who were called Patricians and who Plebeians of the Roman Empire?
6. How long did the first Punic War last? Who was Hannibal?
7. Give a general statement of the extent of the Roman Empire at the birth of Christ.
8. Three great changes marked the reign of Constantine; name them.

DICTATION AND DERIVATION.

SECOND DIVISION.

1. Write a passage to be dictated in the class-room.
2. Derive the following words, giving the meaning of the roots and, when possible, of the prefixes and affixes:

Commerce,	Cavity,
Malicious,	Debtor,
Edifice,	Paternal,
Domestic,	Fluent,
Agriculture,	Manual.

3. Give English words derived from Facio, Fortis, Animus.

THIRD AND FOURTH DIVISIONS.

1. Write a passage to be dictated in the class-room.
2. Derive the following words, and give the meaning of the roots and, when possible, of the prefixes and affixes:

Equinox,	Suburban,
Transport,	Locality,
Consequence,	Dominion,
Admirable,	Instruction,
Uncivil,	Education.

BOOK-KEEPING.

FIRST DIVISION.

1. What is the use of a Daybook; Journal; Ledger?
2. What is the difference between Single and Double Entry in Book-keeping?
3. What is meant by Posting?
4. What are Bills Receivable; Bills Payable; Bank Cheques; Invoices?
5. Journalize the following:—Bo't Goods from Mr. A., $5,000; paid him in cash, $200; gave my note for the balance, at 3 months.
6. Of what use is a Trial Balance?
7. What three accounts are closed last in Double Entry, and in what order?

THIRD AND SECOND DIVISION.

THIRD DIVISION will take Questions 1, 2, 3, 4.
SECOND DIVISION will take Questions 4, 5, 6, 7, 8.

1. What is the object of Book-keeping?
2. What is a Receipt? a Note?
3. Put the following items into the form of an Account:—June 1st, Received Cash, $100.00; 2nd, Received Cash, $25.00; 3rd, Paid Cash, $50.00; 4th, Received Cash, $10.00; 5th, Lost Cash, $8.00.
4. Put the following items into the form of an account, and show how much James Smith owes you:—1. Borrowed from Jas. Smith, $200.00; 2. Sold him 30 yards of fine Cloth, @ $4.00 per yard; 3. Sold him 80 yards Cotton, @ 15 cents per yard: 4. Sold him 100 Fine Silk Hats, @ $5.00 each; 4. Received from him Cash, $50.00.
5. What is the use of a Day Book and Ledger?
6. What is meant by Posting?
7. Write out a Receipt for $250.00, paid this day in Toronto, by Jas. Jones to John Smith.
8. Write out a Note for $100.00, payable in 10 months, @ 8 per cent. per annum, to Dr. A. from Mr. B.

NATURAL PHILOSOPHY.

FIRST AND SECOND DIVISIONS.

1. Define any three of the properties of matter, one of which must be an essential property of matter.
2. Explain clearly what is meant by the (1) centre of gravity of a body, and by specific gravity.
   (2) A cylindrical pillar of white marble, 12 feet long, diameter 16 inches, sp. gr. 2·84. Find the weight of it in pounds.
3. Required the force to put the pillar in question 2 into a waggon, the bottom of which is 4 ft. 6 in. above the ground, on a plank 10 feet long (assuming that there is no friction).
4. Classify levers, giving an example of each class.

HYGIENE.

FIRST AND SECOND DIVISIONS.

1. What are muscles? How many distinct muscles are there in the human body?
2. Name three principal uses of the bones; how many bones are found in the adult human being?
3. What useful purposes are served in the Spinal Column not being straight, nor all in one piece?
4. Tell where the Cranial Nerves are to be found, also the Spinal Nerves; how many pairs of each are there?
5. Through what vessels does the blood flow? Name the two great arteries; tell the difference between arterial and venous blood.
6. Why should our dwelling places receive much fresh air and sunlight?
7. Name as many as you can of the most common causes for producing ill-health.

MUSIC.

FIRST AND SECOND DIVISIONS.

1. Distinguish between Melody and Harmony.
2. How many notes (or sounds) in the ordinary or Diatonic scale? Where do the semitones occur?
3. What is the object of sharps and flats?
4. What is a Chromatic scale?
5. Write down the different characters called notes, and compare them in regard to their duration.
6. What is the signature when the key note is 1st D, 2nd A?
7. What is the key note when there are 1st two flats in the signature, 2nd two sharps?
8. Draw a staff; on it place the treble clef, and one sharp in the signature. Write the key note (a semibreve) on the staff, also two minims, each of which shall form a common chord with the key note. Draw a bar after the first and the third note. Next place a crotchet on the second space and a minim on the second space above the staff. Fill out this last measure with a rest, and draw another bar. Place a dotted minim on the first space and a note on the first ledger line below, to fill out the measure. Close with the proper kind of bar and some mark to show that the strain is to be repeated. Attach to each note the letter and syllable by which it is known.
9. In the music you have just written what is the interval between the first and third notes and that between the fourth and fifth?

THIRD AND FOURTH DIVISIONS.

1. Define Bar, Slur, Ledger line.
2. What is the use of Sharps and Flats?
3. How many notes in a Diatonic Scale? Where do the semitones occur?
4. Name the notes, first by letters, and second by syllables.
5. What is the key note when there is neither sharp nor flat in the signature? When there are two sharps? When there is one flat?
6. When the key note is G, what is the signature?
7. If there are two minims or their equivalent in a measure, what mark should be put at the beginning of the staff to indicate the time?
8. Write down the different characters called notes and compare them with regard to time, also the *rest* corresponding to each note.
9. Name the notes which, when sounded together, produce full chords.

Practical Department.

PHYSICAL EDUCATION.

Dr. Felix Oswald has been contributing of late some very valuable papers to the *Popular Science Monthly* under the above title. The directions they have given concering food and drink, exercise and the rules of hygiene, are excellent, and to be commended to all readers. In the March number of the magazine the subject discussed by the physician is that of "Indoor Life." His theory is—and there is little doubt of its correctness—that to our indifference to the important matter of pure air, we owe by far the larger proportion of our physical ills. To stuffy bedrooms, and unventilated living rooms, are directly traceable the origin of the pulmonary disorders and scrofulous diseases that yearly carry so many victims to the grave. Especially does he protest against "night air superstition," which makes more invalids than any other cause. He calls attention to the facts that this so-called pernicious air has been breathed by delicate animals—fawns, lambs and young birds—since the very dawn of creation; that the anthropoid apes, which so soon perish with consumption in the artificially heated atmosphere of menageries, breathe it with impunity in their native forest; that soldiers, hunters, and lumbermen sleep in tents and open sheds without injury, while men in the last stage of consumption have been saved by adopting a semi-savage mode of life, and living out-doors night and day.

The absolute need of fresh air to preserve the health of children is also insisted upon. Half of the tempers for which little folks are punished, are the direct effect of the poisoned air of their bedrooms. The rooms in which children live must be well aired. And this is especially true of the school-room, where the little folks spend so many hours each day, and where they are kept at mental toil, which, more than any other work absolutely requires pure air. Pure air clears and invigorates the brain; impure air beclouds and stupefies it. There is no doubt that this question is an important one. The average school-house is constructed with no regard whatever to the need of ventilation; but teachers should give the matter careful attention, and endeavour, as far as lies in their power, to make up for the stupidity and indifference of school boards.

Health, comfort and convenience are sadly ignored in the building of the school-room; it may be too much to hope to secure either

of these latter blessings, but for the first every effort should be made. And the first essential for health, no doubt, is—pure air.

Prejudice and ignorance have filled more consumptive graves than poverty.

Since we have found that out-door exercise is more important than all the sophies and ologies of the schools, it has been determined that a well-arranged plan of instruction ten months a year, five days a week, and six hours a day, are quite enough for any school.

Three rooms and an outhouse should be the minimum for a family with children. The air of such a cottage can be kept pure enough by opening the windows. In very cold weather, air the bedrooms in day time and the others at night.

Breathing in the same air over and over again means to feed the organism on the excretions of our own lungs, an air surcharged with noxious gases and almost depleted of the life-sustaining principle.

No ventilatory contrivance can compare with the simple plan of opening a window of the sleeping room and keeping it open day and night.

In warm summer nights open every window in the house, and every door connecting the bedroom with the adjoining apartments, creating a thorough draught.

Thousands of soldiers, hunters, and lumbermen sleep every night in tents and open sheds without the least injurious consequences; men in the last stages of consumption have recovered by adopting a semi-savage mode of life, and camping out doors in all but the stormiest nights.

The superstitious dread of the night air removed, families can live healthier in the heart of a great city than slaves to this fear can live on the airiest highland of the Southern Apennines.

In northern climates the chief defects of our domestic arrangements consist of impure air, want of sunshine, and want of room for exercise.

The *beau ideal* of a healthy house would be a well-plastered, stone building on some eminence, remote from swamps and stagnant creeks, but surrounded by sunny slopes, available for play grounds; spring or well water; out-door cellar, kitchen in an out-house; high ceilings, wainscotz, or wall-paper of innocuous colours; deep windows, with projecting mullions to admit the air and exclude the rain; an airy verandah, and no shade trees on the east and west side, as sunlight is more needed in the morning and evenings.

If babies of two or three years scream violently for hours together, it generally means that there is something wrong about the management.

Tight swaddling of infants is downright torture. Forty per cent. of all children born in certain manufacturing districts of Belgium die before the end of the second year. They are swaddled, of course; they must not crawl around and bother people; and paregoric, in the form of "soothing syrups," does the rest; the child cries for liberty, and receives death.

The poorest family could spare a few square feet of space in some sunny corner for a nursery, and with old quilts and rugs, make it baby-proof enough for all probable emergencies. Then furnish a few playthings and trust the rest to nature.

As soon as the child begins to waddle, it should have an opportunity to exercise its arms—a grapple swing or a rope stretched from wall to wall. It is surprising how fast the clumsiest youngster begins to profit by such a course.

The development of the shoulder muscle tends to invigorate the chest, and a fifty-cent hand-swing may save many dollars worth of cough medicine.

Every house full of children should have a rough-and-tumble room, where the youngsters could romp, roll, and jump to their hearts' content. It need not be a heated room; children are naturally hardy, as they are naturally truthful. A wood-shed will do, a lumber-room with old mattresses and hiding places. Gymnastic apparatus might usefully be added, and for big boys a carpenter's lathe with an assortment of tools.

For the youngsters the rough-and-tumble play is a good thing; it will strengthen their limbs, lungs, and livers, and prevent more ailments than the entire list of patent medicines. Moreover, it will keep them quiet where other children are apt to be fidgety—in the parlour and at school.

After an hour or two of gymnastics, combined with wood-chopping and water-carrying, the wildest boy will prefer a chair to a flying trapeze, for rest is as natural as action; in the intervals of their play, the young of frolicsome animals will sit motionless for hours.

As a general rule the forenoon is the best time for studies, and the airiest room in the house the best locality. Pure air has a wonderful effect on the clearness of our cerebral functions; the half suffocating atmosphere of the average school-room is as stupefying as the influence of a half-intoxicating drink.

In large schools a change of rooms from hour to hour is advisable, and a thorough renovation of the vitiated atmosphere by opening every window and every door, and keeping up a rousing fire.

Young school children ought to have a recess after every lesson, and should not be required to sit rigidly quiet.

The old-fashioned chimney or an open grate is far superior to a closed stove, from a hygienic standpoint. But an open window at intervals in addition, is needed to correct the vitiated atmosphere of the room.

The end of the day is the best time for a sponge-bath; a sponge and a coarse towel have often cured sleeplessness where opiates failed. A bucketful of tepid water will do for ordinary purposes; daily cold showers in winter are as preposterous as hot drinks in the dog days.

Our beds are our night-clothes, and ought to be kept as clean as our shirts and coats. Woollen blankets are healthier than quilts. A straw tick is better than a horse-hair mattress, though a woven-wire mattress is preferable to both. Feather beds are a recognized nuisance.

Children over ten years should sleep alone, or at least under separate blankets, if the bedsteads do not reach around.

Do not hurt children in their sleep, chlorotic girls especially, and weakly babies need all the rest they can get. If they are drowsy in the morning, let them sleep, it will do them more good than stimulants and tonic syrups. For school-children in their teens, eight hours of quiet sleep is generally enough, but do not restrain them to fixed hours.

Open every window, and let your children share the luxury of the last evening hour; after breathing the fresh night air for a while they will sleep in peace.

AN ACCOUNT OF THE PHONIC SYSTEM OF TEACHING READING.

BY WILLIAM CHADWICK, HEAD MASTER OF THE LANCASTRIAN SCHOOLS, WAKEFIELD.

It will not be disputed that in dealing with very young children it is advisable to adopt such methods of instruction as will tend to ease and interest the learner, and secure the best results in the smallest space of time, and nowhere are these more desirable than in the teaching of reading. The advocates of the Phonic method make claim to all these points in favour of its adoption. When perfectly carried out, it has been proved that the following standard of reading may be easily attained by a child of six years of age, of average intelligence, who has been under regular instruction the previous three years—the pronunciation good, the articulation clear and distinct, and the fluency such that narratives like those of the Gospels, or of the difficulty of *Robinson Crusoe* or the *Vicar of Wakefield*, may be read with few mistakes, and in not much longer time than the teacher herself would require.

The late Mr. W. L. Robinson, of Wakefield, was the inventor of this system. He began to turn his attention to the subject of infant teaching about twenty-five years ago, and for two or three years he made a great many experiments in instructing very young children himself in reading; his object being to contrive a Phonic system that should almost unite the accuracy and rapidity of the Phonetic method, and yet to use ordinary type. His first fear was that the extended alphabet of sixty-five characters, which he was obliged to compile to meet the requirements of the language, would be an insurmountable obstacle to his young pupils; but he was most agreeably surprised to find that it was easily mastered, though of course in not quite so short a time as a child would take to learn the names of the ordinary twenty-six letters; whilst the gain in reading afterwards made up ten times over for the increased difficulty of acquiring so extended an alphabet. In 1858 the managers of the Wakefield Lancastrian School, including Mr. Samuel Wilderspin, the founder of the infant school system, having seen the remarkable result produced by the method, determined to introduce it into their infant department; and Mr. Robinson was induced to undertake to instruct the teachers, and to superintend its working in school till thoroughly established. It has now been

in use over twenty-two years, and during the time several of H. M. Inspectors have borne excellent testimony to the merits of the system.

Mr. Brodie, after one of his visits, reported that "the result of the Phonic method of teaching to read surprised me." On another occasion he says: "The infants are taught reading on a good method, and I can fairly say that they read exceedingly well for their age."

Mr. Milman, after his examination of the school, reported: "Great pains are bestowed on the reading throughout the school, and the peculiar system by which it is taught to the younger children is certainly, judging by the result, successful, inasmuch as they all, both the older and the younger, are able to read with unusual clearness, facility, and intelligence." The following year he said: "The first class reads remarkably well in books adapted for much older children."

Mr. Fitch reported the first time that "the teacher in reading achieves very remarkable results;" and the next year: "The quality of the instruction is unusually good in all the three elementary subjects, but the special merit of the school is the reading. Every child presented in the First Standard reads with ease the lessons appropriate to the Second Standard."

Mr. Baily reported that "the method of teaching reading here appears to make reading much easier to young children, and deserves attention."

Mr. Pickard, that "the reading is unusually good."

Mr. Legard, that "the excellence of the reading here deserves especial mention." Again, that "the infants presented in the First Standard did their reading excellently."

It may be mentioned incidentally here, that the system has been in use for three or four years in some of the schools under the Leeds School Board, and that the Sheffield and Darlington Boards have recently introduced it into some of their schools. In Sheffield the Inspector reported after his visit to the school where the system was on its trial, that "the methods employed are very intelligent, and have been carried out with vigour and success. The progress made in reading by such young children is remarkable." And at Darlington, scarcely a year after its introduction, the Inspector there reported: "The reading is in this little school taught with very great success, and in a very intelligent manner. The system seems worthy of a more exteusive trial."

Like most new proposals, the system at first had to encounter much adverse criticism. Among other objections raised against it, it was affirmed that it must lead to bad spelling. But the result has been, that while exceptionally good reading has been obtained, the spelling in the long run has gained rather than suffered by the system. This is doubtless due to the fact that the children having been taught to read so soon, a very considerable amount of time can be devoted to the transcription and dictation of their reading lessons, which, after all, has been found to be the best method of ensuring good spelling. It is pleasing to find that Mr. Blakiston, H. M. Inspector of Schools, and an experienced educationalist, in his admirable little work, *The Teacher*, advocates precisely this plan of teaching spelling, and, moreover, seems to recommend a Phonic system of teaching to read. After a year's trial, a public examination of the infants was held, when Mr. Robinson took the opportunity of explaining the system to a large gathering of the parents, many of whom were rather prejudiced against so novel a plan, and of which many of them were entirely ignorant. Children, indeed, had been withdrawn from school during the year, as they did not know their letters, and could do nothing, as one mother put it, but "puff and blow," alluding, of course, to the giving of the powers of the letters instead of their names. However, the reading of the children on this occasion thoroughly surprised those present. particularly that of a child of four and a half years, who read with ease Smith's *Baby's Debut*, and a short paragraph at sight from that day's *Times*.

"HOW SHALL WE GET GOOD TEACHERS?"

BY JOHN D. PHILBRICK, LL.D.

This educated problem, like most others, has its small side as well as its large side. I take it for granted that it is only on the latter that it is intended to consider it here. Moreover, it is at once the most difficult and the most important of all educational problems. We want, of course, good school-houses, good supervision, good programmes, and good appliances of every description, as helps even to the good teacher, if our aim is to produce the best results. But the paramount want in the educational system is the good teacher. In every educational project with which we have concern we ought not to fail to inquire what effect it is to have on the teachers. For myself, I have to confess that after all experience, after all studies of the ways and means, the necessary conditions of educational success, of educational progress, I come back always, in the end, to the elementary conclusion embodied in the trite maxim, "as is the teacher so is the school." For there is no conceivable substitute for competency in the teacher. Hence the essential test of a school system is to be looked for in the quality of its teachers. We have certainly in our own country a great many admirable teachers who are doubtless doing as good work as any teachers in the world, and we are supposed to have as good material from which to form good teachers as any country whatever. But in looking over the country as a whole, we find that a very large proportion of the teachers are incompetent through the two-fold deficiency of education and experience. This is the natural and legitimate result of the fact, that as yet not one State in the Union has made anything like adequate provision for securing a supply of competent teachers.

1. In considering the ways and means it is obvious enough that the first thing to be done is to create the *demand* for good teachers. The actual teacher is fully up to the actual demand. We are right in urging upon teachers the duty of unremitting efforts for self-improvement. But it is more important to induce government to provide means and motives for this self-improvement. The recent congress of teachers in Paris is a good illustration of what can and should be done for improving the qualifications of teachers by the power and authority of the State. And here there are two errors to be avoided,—the holding up on one hand of an impossible and purely fanciful standard of qualifications, so far above all practicable attainment as to paralyze effort; and, on the other, the futile notion of attempting to make the capable superintendent a substitute for the capable teacher. It is too much to expect the maximum aptitude and the maximum knowledge in every teacher, but it is not too much to expect to get teachers who know fairly well both the theory and practice of their trade, and who are able to teach without supervisory direction in detail. But the difficulty of creating the demand adequate to the universality of the want lies in the excessive decentralization of our system. Experience proves that municipal autonomy cannot be accepted as a finality in educational economy. With us more central authority is needed. The teacher must be made an officer of the State, and not be wholly subject to the caprice of municipal votes.

2. But supposing the demand—how to supply it? The next requisite, in logical order, stated in generality, is simply this: make the office of teacher desirable. It has already been made very generally desirable for the better class of girls as a camping-ground between the period of schooling and the matrimonial destination. For the most part the teaching-trade gets the cream of this class of workers, competing successfully with domestic service, the shop and the store. Hence the rush of the educated girl for the school-room. This is to be noted as, in some sense, a gain; but it is no finality, and its results, in comparison with a rational and desirable standard, is a manifest failure. And failure must ever be the outcome of the attempt to teach the rising generation, chiefly by the agency of the fairer sex. It is like warfare with an army composed of raw militia enlisted for six months, aided by a moderate contingent of disabled veterans who ought to be in the hospital, and a small quota of trained effectives who are rightfully hopefully expecting an early discharge. Not but that women must and should do much of the teaching, but not in general, as a career for life, and the highest excellence in teaching is to be looked for only from teachers, whether male or female, who are devoted to the profession as a life's work. To supply the demand for good teachers, then, I conclude that teaching must open a career for men, and that at least a moiety of teachers should be men who have definitely adopted teaching as a profession.

But what must be done to make teaching a desirable career for competent men? Now with us the principal thing thought of as a motive for getting and keeping the few capable men in the service, is the rate of salary. This is an eminently wasteful and short-sighted policy, and is evidence of a lamentable crudeness in our civilization in respect to this department of social organization. The fixedness of the salary is necessary. But besides the right provision for salary, two other capital provisions are requisite to attract men to the profession of teaching: first, the permanent ten-

ure of office, with provision for retiring pensions; second, the proper bureauchial relations—that is, the teacher must be under the supervision and direction of competent specialists. To submit the experienced, faithful teacher to the judgment and control of non-specialists, whether ignorant or learned, is to make a martyr of him. And I must add that I think it eminently inexpedient to charge women with the responsibility of supervising male teachers For one, I am looking to the civil-service reform as a means whereby the status of the teacher is to be greatly ameliorated. Third, finally having created the demand, and rendered the teacher's office desirable, adequate provision must be made for the special preparation of teachers. As a rule teachers should not be expected to be competent, unless they have passed through a course of some normal training in the theory and practice of teaching. It must be confessed that we have made but slow progress in the development of normal-school training. In all other educating countries it is no longer a question whether teachers shall have a normal school training or not. But in this country, having only made a beginning in the professional education of teachers, we have come to a standstill in this business. We occupy an untenable position. We cannot consistently continue to provide for the normal training of only a part, and that the smaller part, of the teachers employed in our schools. If it is a good thing, it is a good thing for all teachers.

Such, in brief, I believe to be the essential means for securing good teachers; the creation of the demand for such; the rendering of the office of the teacher desirable as a career, and the providing of adequate professional education. There are accessories, of course, not to be overlooked. Everything that tends to discourage teachers, to bring them into disrepute, is a damage to the cause of education. The injudicious examination of teachers and schools are among the heavy grievances which tend to make teachers disgusted with their profession. Where education is well organized, provision is made for recognizing special merit in teachers by promotions and honorary distinctions. The way is open now in France for the humblest teacher in the poorest commune to become a member of the governmental Council of Education, or general inspector. In this brief outline I have presented no fanciful, untried theory, but the results of educational experience in the most advanced educating communities.—*New England Journal of Education.*

SOME METHODS OF TEACHING LOCAL GEOGRAPHY.

No. 1. The teacher assigns the lesson, probably a half column of map questions for review. For instance, on the map of Africa, the cities, capes, lakes, rivers and mountains are given for a lesson. No distinction is made. All must be learned alike—committed to memory. The pupil must be able to tell in what part of what country, and on which side of what river each city or town is situated. All are of equal importance; Derr or Magadoro is just as important as Cairo or Tunis. They must also learn from what part of what country, into what water, and in what direction each cape projects. Cape Lopez is equally as important as Cape Verde or Good Hope, and so on through the list. The situation and outlet of lakes must be given; the source, direction, and outlets of the rivers, and at the beginning of the recitation for a rapid review the exact situation of every mountain peak, or situation or direction of every range.

During the recitation the teacher sits at her desk with her book open before her, one index finger carefully keeping the place in the column of questions, the other industriously racing around over the map, like a hound hunting a lost track, trying to find the place, in order to be able to say "right" or "wrong," when it is located by the pupil. This gives the pupil a good chance to take a peep at a concealed book to refresh his memory. Thus the whole list is gone through with, in the exact order of the book—not one place omitted. The next lesson is assigned (probably the same one over again), and the class is dismissed apparently as well satisfied with the performance as the teacher.

This method of course has its good points, but they are so exceedingly small that it may require the use of a magnifying glass of very great power to see where the benefit to the pupil comes in. It is a very *easy* way for the *teacher*, provided she be not easily embarrassed by the long silence necessarily following some of the answers, before she can say "right" or "wrong." True, the *memory* is being cultivated and stored with *facts* (!) which may, sometime in the dim, distant future, be useful. But when?

No. 2 differs from No. 1 in that only the most important places are to be learned—the other being omitted or recited with the book before the pupil as well as the teacher. In neither of these methods is the outline map or a globe brought into requisition. The class usually manifests great interest—in trying to invent some side show to prevent old Morpheus from spreading his balmy wings over them.

No. 3. The teacher selects from the lists the places that are most important from a commercial or other standpoint; arouses the interest of the class by giving a short description of some city, or of a noted structure in some country—*e.g.*, the pyramids of Egypt, or the ruins of Thebes, or the great Suez Canal; encourages them to learn from the Encyclopædia, Pronouncing Gazetteer, books of travel, or other sources, interesting descriptions of the people, products, animals, or places of the country—the origin of names, etc., etc., and the preparation of the lesson becomes a pleasure.

In the recitation the pupils are encouraged to tell what they have learned about the places mentioned in the lesson; one pupil is sent to the outline map, pointer in hand, to point out the places as they are mentioned; sometimes the teacher calls for the places, and sometimes she has the scholars call for them.

One scholar may call on the one next to him to locate or describe some place, and that one in turn, after answering, may call on the next one in the same manner. This teacher strives to keep up the interest of the class by frequently varying her methods, and not using any one until it becomes monotonous.

No. 4 introduces map-drawing, and when she assigns the lesson, draws the map on the blackboard, taking the pupils on an imaginary voyage as she draws the outline, marking the principal gulfs, bays, capes and cities along the coast as she comes to them, stopping occasionally to throw in a live description, to keep up the interest of the class. Occasionally she has the class draw the map on their slates as she draws it on the board. When she has completed her voyage around the coast, she takes them on a journey through the interior, locating the principal cities, rivers, mountains, and lakes, as she comes to them. Not more than fifteen or twenty places are required to be learned for one lesson, as she considers a little well done better than a great deal poorly done. She has her pupils draw the map on their slates and bring to the class three or four times before finally putting it on paper, for which she offers a prize, or extra credits.

In the recitation three or four scholars are sent to the boards to draw the map, *without the book*, while the others recite the lesson, one being sent to the map to point out the places, as in No. 3.

A little time—five or six minutes—is always taken of previous lessons. This she considers very important in fixing the lessons in their minds. At the close of the recitation, and before assigning the next lesson, a few minutes are allowed for criticising the maps that have been drawn on the blackboard. Some of the best maps drawn on paper are used for ornamenting the room by tacking them up on the wall, or better, by putting them in rustic frames and hanging them up around the room.

Although each of these methods may have some good points, it is easy to see which is most profitable.—*Pacific Home and School Journal.*

WHAT SHALL WE DO WITH THE BOYS AND GIRLS?

OR,

A PLEA FOR MORE GENUINE KINDERGARTENS.

BY JOHN OGDEN, *in the New Education.*

The trained hand and eye, the awakened brain and sense, the earnest purpose, the vigorous thought and practical good sense of those children and youth having received kindergarten instruction, will find ready employment in the world's industries. There is still plenty of work to do; and it is multiplying with our wants and advanced civilization. The waste places of the earth are not yet inhabited. Its vast resources are not yet developed. Our deserts are not yet "blossoming like the rose;" but "the wilderness and the solitary places *shall* rejoice together," etc. This is the divine promise, but I rather suspect that man will have to exert himself in a logical way before all that shall come to pass. The law only waits to be fulfilled, but it can never fulfil itself. The conditions are already set, and only await man's tardiness.

There is no need to quarrel about room, either. The world is large enough. It might quintuple its present population, and still have room enough, and plenty to do for all its inhabitants. There would be work enough for every hand, and head, and heart in it for the next 200,000 years, should it last so long. What the world needs to-day is *workmen*, not bunglers; not such as are turned out of some of our sham schools, and labelled "*Normalite*" or some such nonsense; not those who have graduated in a six months' course, under the impression that they know everything, and something in addition, but workmen of culture, of skilled hand and disciplined minds—workmen that can take hold of the hidden forces of nature and wield them for the deliverance of man from the thraldom of ignorance and the palsy of want.

Why, the material losses alone now sustained through sheer awkwardness and inefficiency of labour,—such as in agriculture, architecture, engineering, mining, and commerce in its various branches, to say nothing about the fine arts,—are sufficient to feed, and clothe, and shelter, from year to year, a greater population than now exists upon the face of the earth.

Talk of nothing to do! It is only the lazy tramp that can find nothing to do. Means multiply with our wants, and our wants multiply with our civilization. As every age advances in intelligence and culture, new avenues of trade and art and all industries will be opened up to it, so that we need not be in fear of starvation, or of privation of labour, so long as we develop the brains and bodies of our boys and girls.

And then the race of mortals on the earth needs more time to devote to the culture of the soul faculties belonging to it. It needs more time to grow. We hurry too much. We eat too fast. We sleep too long. We read too much, and think too little. We rush about as though the world were on fire, and we the only available engines in all creation. This wears us out, or else produces such monstrosities that but little of the world's real wealth is gained.

The race *must* have its natural repose and proper time for development, or its strength, symmetry, and durability are so impaired as to interfere with the best interests. This vast accumulation of talent and energy on the one hand, properly awakened and directed in childhood; and accumulation of material wealth on the other,—all turned upon the great problem of life, will give a meaning, a potentiality, a fervour to it, to which the ages hitherto have been strangers.

Mankind have only just begun to live. They have not yet measured the grand possibilities of life. Only here and there *one* has laid the angel's reed to the walls of the city. Its dimensions are beyond mere human comprehension; yet we may measure, and measure, and prophesy. "The kingdoms of this earth are yet to become the kingdoms of our Lord and his Christ." That kingdom is typified in the life and innocence of childhood. We cannot, therefore, afford to let evil get the start of us. We must have a fair race. In order to do this, we must insist upon at least an even start, which means a genuine kindergarten in every neighbourhood; and I had almost said, in every family. Why not? Is it too expensive? Let me tell you, fellow-teachers and parents, *there is nothing in this world that pays so well as right education*, no matter what it costs. This good thing must become as common as the common school, and then the common school will profit by its teachings. It is the true light, and it must not be hid under a bed or a bushel. It is the true philosophy, and it must be recognized in our educational system if we expect to profit by it.

Let children do something, is a demand of the law of their being. Doing is their strongest point. It is their inalienable right; and the school or school system that denies them this is guilty of robbery, and I had almost said, of murder in the first degree; not, it is true, in the eyes of the law of the land, but in another and a higher sense—the law of God. The child wants the work and the play. The world needs the work to make merry with the child at play. So the two shall be harmonized, and both shall grow better and better—the child and the work—all the time.

Idleness is unnatural, and leads to discontent and mischief. But misdirected labour often leads to the same result. Both are a species of misery. So that it matters *what* our children do, and *how* they do it, quite as much as that they do it at all. Some parents and teachers are prodigal of work and other devices for children. But it is the incongruous nature of the employment that works almost as much ruin as idleness itself.

The great kingdom of nature furnishes this employment in right measure, both in quantity and kind. The true kindergartener interprets this kingdom to the child. She unseals his blind eyes that he may see, unstops his deaf ears that he may hear, loosens his tied tongue that he may talk, unbinds his fettered fingers that he may do. This is the kingdom of activity, and it is allied to that other kingdom we read about—"the kingdom of heaven within you." The true kindergartener is the grand exponent of these two kingdoms, as typified in little children, and their appropriate work.

This is also an orderly kingdom. There are no discords in it. They cannot exist in either the kingdom of willing labour or the kingdom of heaven. The one is the type of the other. The order of nature responds to the order in the kingdom of heaven. Order is the first law of both. Both are divine—each has a human side.

But the thing we call order is often the very imp of rebellion. It is a monster begotten of tyranny and born of fraud. True order is never forced obedience, but voluntary acceptance. It is not superinduced, but evolved. It is willing obedience to law, and comes from a knowledge and practice of virtuous principles. It is planted in the soul. It grows, not so much of habit as from necessity. It is strengthened and confirmed by *voluntary* exercise. Every act of willing obedience begets pleasure—an evidence of right growth; and every such conformity magnifies the law. The converse of this is also true.

Thus much, then, for the philosophy of the thing; thus saith the law, as founded in the nature of things. It hedges us about with the most inflexible conditions. It is the voice from the burning mount, amidst the thunderings and the earthquake. There is no escape from the inevitable, except through the channels of obedience: and obedience is not obedience unless it is made fruitful through voluntary acceptance. Christ illustrated this in His life and death. He chose the tragic part of the great drama of human redemption, and thus made it effective. The law is thus fulfilled and magnified. The lightnings of the burning mount are stayed, and all the voices of terror hushed.

HOW TO SECURE OBEDIENCE.

You cannot get it by demanding or claiming it; by declaring that you will have it; or even by explaining to your scholars how useful and indispensable it is. Obedience is a habit, and must be learned like other habits, rather by practice than by theory; by being orderly, not by talking about order.

There are some things on which it is well to draw out the intelligence and sympathies of a child, and to make him understand the full reason and motive of what you do. But on this point, I would not, except upon rare and special occasions, enter into any discussions, or offer any explanations. All entreaty—"Now do give me your attention;"—all self-assertion—"I will have order;"—all threat—"If you don't attend to me I will punish you," are in themselves signs of weakness. They beget and propagate disobedience; they never really correct it. All noise and shouting aggravate the evil, and utterly fail to produce more than a temporary lull at best.

> "He who in quest of silence 'silence' hoots,
> Is apt to make the hubbub he imputes."

All talk about discipline in a school is in fact mischievous. To say "I ought to be obeyed" is to assume that a child's knowledge is to be the measure of his obedience, to invite him to discuss the grounds of your authority, perhaps to dispute it. A nation, we know, is in an abnormal state while its members are debating the rights of man or the fundamental principles of government. There should be underlying all movement and political activity, a settled respect for law and a feeling that law once made must be obeyed. So no family life of a right kind is possible if the members treat the authority of the parent as an open question.

The duty of obeying is not so much a thing to be learned *per se*. It must be learned before the learning of anything else becomes possible. It is like food or air in relation to our bodily lives; not a thing to be sought for and possessed for itself, but an antecedent condition, without which all other possessions become impossible. So it is not well in laying down a school rule to say anything about the penalty which will fall upon those who transgress it. Show that you do not expect transgression; and then, if it comes, treat it—as far as you can with perfect candour and honesty do so—as something which surprises and disappoints you, and for which you must apply some remedy rather for the scholar's sake than your own.

Now, the first way to secure obedience to commands is to make every rule and regulation you lay down the subject of careful previous thought. Determine on the best course, and be sure you are right. Then you will gain confidence in yourself, and without such confidence authority is impossible. Be sure that if you have any secret misgivings as to the wisdom of the order you give, or as to your own power ultimately to enforce it, that misgiving will reveal itself in some subtle way, and your order will not be obeyed. An unpremeditated or an indefinite command—one the full significance of which you yourself have not understood—often proves to be a mistake, and has to be retracted. And every time you retract an order your authority is weakened. Never give a command unless you are sure you can enforce it, nor unless you mean to see that it is obeyed. You must not shrink from any trouble which may be necessary to carry out a regulation you have once laid down. It may involve more trouble than you were prepared for; but that trouble you are bound to take in your scholar's interest and in your own. We must not evade the consequences of our own errors, even when we did not foresee or even desire all of them. The law once laid down should be regarded as a sacred thing, binding the law-giver as much as the subject. Every breach of it on the scholar's part, and all wavering or evasion in the enforcement of it on your own, puts a premium on future disobedience, and goes far to weaken in the whole of your pupils a sense of the sacredness of law.

And when rules and orders descend to details, your supervision should be so perfect that you will certainly know whether in all these details the orders have been obeyed or not. Unless you can make arrangements for detecting a breach of law with certainty, do not lay down a law at all. It may be replied to this, that an attitude of habitual suspicion is not favorable to the cultivation of self-respect in a scholar; and that you want often to trust him, and show you rely on his honor. True. The development of the conscience and of the sentiment of honor is one of your highest duties; but in cases where you can safely appeal to the sense of honor, it is not a command which is wanted, but a wish, a principle, a request. You explain that a certain course of action is right or desirable or honorable in itself; and you say to your scholar, "Now I think you see what I mean; I shall trust you to do it." That is, you part in some degree with your own prerogative as a governor, and invite him to take a share in his self-government. But you do not put your wishes into the form of a command in this case. Commands are for those in whom the capacity for self-command is imperfectly developed; and in their case vigilance does not imply suspicion; it is for them absolutely needful to know that when you say a thing it has to be done, you mean for certain to know whether it is done or not. Involuntary and mechanical obedience has to be learned first; the habit of conscious, voluntary, rational obedience will come by slow degrees.—*From J. G. Fitch's Lectures.*

HOW TO PREVENT DROWNING.

I wish to show how drowning might, under ordinary circumstances, be avoided, even in the case of persons otherwise wholly ignorant of what is called the art of swimming. The numerous frightful casualties render every working suggestion of importance, and that which I here offer I venture to think is entirely available.

When one of the inferior animals takes the water, falls or is thrown in, it instantly begins to walk as it does when out of the water. But, when a man who cannot "swim" falls into the water, he makes a few spasmodic struggles, throws up his arms, and drowns. The brute, on the other hand, treads water, remains on the surface, and is virtually insubmergible. In order, then, to escape drowning, it is only necessary to do as the brute does, and that is to tread or walk the water. The brute has no advantage in regard of his relative weight, in respect of the water, over man, and yet the man perishes while the brute lives. Nevertheless, any man, any woman, any child who can walk on the land may also walk in the water, just as readily as the animal does, if only he will, and that without any prior instruction or drilling whatever. Throw a dog into the water, and he treads or walks the water instantly, and there is no imaginable reason why a human being under like circumstances should not do as the dog does.

The brute, indeed, walks in the water instinctively, whereas the man has to be told. The ignorance of so simple a possibility, of treading water, strikes me as one of the most singular things in the history of man, and speaks very little indeed for his intelligence. He is, in fact, as ignorant on the subject as is the newborn babe. Perhaps something is to be ascribed to the vague meaning which is attached to the word *swim*. When a man swims it means one thing; when a dog swims it means another and quite a different act. The dog is wholly incapable of swimming as a man swims, but nothing is more certain than that a man is capable of swimming, and on the instant, too, as a dog swims, without any previous training or instruction, and that, by so doing without fear or hesitancy, he will be just as safe in the water as the dog is.

The brute in the water continues to go on all-fours, and the man who wishes to save his life, and cannot otherwise swim, must do so too, striking alternately, one two, one two, but without hurry or precipitation, with hand and foot, exactly as the brute does. Whether he be provided with paw or hoof, the brute swims with the greatest ease and buoyancy. The human being, if he will, can do so too, with the further immense advantage of having a paddle-formed hand, and of being able to rest himself when tired by floating—a thing of which the animal has no conception. Bridget Maloney, a poor Irish immigrant, saved her own life and her three children's lives, when the steamer conveying them took fire on Lake Erie, by floating herself, and making them float, which simply consists in lying quite still, with the mouth shut and the head thrown well back in the water. The dog, the horse, the cow, the swine, the deer, and even the cat, all take to the water on occasion, and sustain themselves perfectly without any prior experience whatever Nothing is less difficult, whether for man or brute, than to tread water, even for the first time. I have done so often, using the feet alone, or the hands alone, or the whole four, many times, with perhaps one of my children on my back. Once I recollect being carried a good way out to sea by the receding tide at Boulogne, but regained the shore without difficulty. A drop of water once passed through the rima of the glottis, and on another occasion I experienced such sudden indisposition that, if I had been unable to float, it must, I think, have gone hard with me.

Men and animals are able to sustain themselves for long distances in the water, and would do so much oftener were they not incapacitated, in regard of the former at least, by sheer terror, as well as complete ignorance of their real powers. Webb's wonderful endurance will never be forgotten. But there are other instances only less remarkable. Some years since, the second mate of a ship fell overboard while in the act of fixing a sail. It was blowing fresh; the time was night, and the place some miles out in the stormy German Ocean. The hardy fellow nevertheless managed to gain the English coast. Brock, with a dozen other pilots, was plying for fares by Yarmouth; and, as the main-sheet was belayed, a sudden puff of wind upset the boat, when presently all perished except Brock himself, who, from four in the afternoon of an October evening to one the next morning, swam thirteen miles before he was able to hail a vessel at anchor in the offing. Animals themselves are capable of swimming immense distances, although unable to rest by the way. A dog recently swam thirty miles in America in order to rejoin his master. A mule and a dog washed overboard during a gale in the Bay of Biscay have been known to make their way to shore. A dog swam ashore with a letter in his mouth at the Cape of Good Hope. The crew of the ship to which the dog belonged all perished, which they need not have done had they only ventured to tread water as the dog did. As a certain ship was laboring heavily in the trough of the sea, it

was found needful, in order to lighten the vessel, to throw some troop-horses overboard, which had been taken in at Corunna. The poor things, my informant, a staff-surgeon, told me, when they found themselves abandoned, faced round and swam for miles after the vessel. A man on the east coast of Lincolnshire saved quite a number of lives by swimming out on horseback to vessels in distress. He commonly rode an old gray mare, but, when the mare was not to hand, he took the first mare that offered.

The loss of life from shipwreck, boating, bathing, skating, fishing, and accidental immersion is so disastrously great, that every feasible procedure calculated to avert it ought to be had recourse to. People wlll not consent to wear life-preservers, but, if they only knew that in their own limbs, properly used, they possessed the most efficient of life-preservers, they would most likely avail themselves of them. In every school, every house, there ought to be a slate tank of sufficient depth, with a trickle of water at one end and a siphon at the other, in order to keep the contents pure. A pail or two of hot water would at any time render the contents sufficiently warm. In such a tank every child from the time it could walk ought to be made to tread water daily. Every adult, when the opportunity presents itself, should do so. The printed injunction should be pasted up on all boat-houses, on every boat, at every bathing-place, and in every school. "Tread water when you find yourself out of your depth" is all that need be said, unless, indeed, we add, "Float when you are tired." Every one, of whatever age or sex, or however encumbered with clothing, might tread water with at least as much facility, even in a breaking sea, as a four-footed animal does. The position of a person who treads water is, in other respects, very much safer and better than is the sprawling attitude which we assume in ordinary swimming. And then the beauty is comprised in its utility, whereas "to swim" involves time and pains, entails considerable fatigue, and is seldom adequately acquired, after all.

The Indians on the Missouri River, when they have occasion to traverse that impetuous stream, invariably tread water just as the dog treads it. The natives of Joanna, an island on the coast of Madagascar, young persons of both sexes, tread water, carrying fruit and vegetables to ships becalmed, or it may be lying-to in the offing miles away on the coast of Africa. Some Kroomen, whose canoe upset before my eyes in the sea-way on the coast of Africa, walked the water, to the safe-keeping of their lives, with the utmost facility; and I witnessed negro children on other occasions doing so at a very tender age. At Madras, watching their opportunity, messengers, with letters secured in an oil-skin cap, plunge into the boiling surf, and make their way, treading the water, to the vessels outside, through a sea in which an ordinary European boat will not live. At the Cape of Good Hope men used to proceed to the vessels in the offing through the mountain-billows, treading the water as they went with the utmost security. And yet here on our own shores, and amid smooth waters, men, women, and children perish like flies annually, when a little properly-directed effort —treading the water as I have said—would haply suffice to rescue them every one.—HENRY MACCORMAC, *in Popular Science Monthly.*

THE PRIMARY CLASS.

QUESTIONS.

What are the uses of water? What are newspapers for?
How many toes has a hen on one foot?
Why cannot a hen swim as well as a duck or swan?
Why does it take eight shoes to shoe an ox?
What cities and towns join the city in which you live?
Where does the rain come from, and where does it go?
What can you tell me about the clock?
What would you probably see in a farm yard?
What numbers could you write with the figures 1, 3 and 5?
How should children always treat old persons?
Of what use are our thumbs? Can we do without them?
Name some articles made of iron. Of wood. Of tin?
Tell me all you know about hay? Corn? Flour?
What are some of the things you can do with snow?
Of what use is a thermometer? A weather-vane?
What things are made in this city?
What places have you visited in Boston? In any city?
Why ought we to treat animals kindly?
What is an apothecary shop? A retail store?
Name the different kinds of fruit-trees you have seen.
In what position should you stand when reciting?
What must you do in order to become good scholars?
Of what are baskets made? Boxes? Bags?
Tell me something the horse can do? The dog?
Mention some things formed from water?
Name some articles of food? Of dress?
What did you see on your way to school?
What are domestic animals? Name some of them?
Where and how is coal obtained? Wood? Oil?
Why do we not see the stars in the day time?
What makes the little seed we plant grow?
In asking a question do you always keep the voice up?
Of what use are object lessons? Describe your slate?
Can a blind person read? If so, by what means?
How is the building heated? How is your house heated?
What things can we do with our hands? With our feet?
Where does tea come from? Sugar? Rice? Raisins?
What is the difference between a village and a city?
Give a sentence containing the word that I mention?
What season of the year is it? Month? Day? Time of day?
What do people use for fuel? For light?
Name the different modes of travelling?
Where do the different kinds of fruit we eat grow?
What kind of birds do we see in this city?
Name the different animals that you have seen?
What would you find at the sea-shore?
What kind of vegetables do you know about?
What do people do with eggs? With milk?
How are ships useful to us? Speak of their size.
Do cloth and flannel grow? Do raisins?

ON THE BACKWARDNESS OF PUPILS IN RESPONDING AND VOLUNTEERING.

BY E. H. RUSSELL, PRINCIPAL OF THE STATE NORMAL SCHOOL AT WORCESTER, MASS.

I suppose I need not take much time to explain to teachers what is meant by "the backwardness of pupils in responding and volunteering." Teachers of young children may not have noticed it, but every one who has had to deal with classes above the primary grades,—pupils, say from twelve to seventeen years old,—especially in such lessons or exercises as involve off-hand answers to questions of somewhat general scope, must have encountered the drawback of a marked reserve or reluctance in giving responses, even where the conditions of prompt answers seemed very easy. In the case of an appeal to the class for volunteers to do a certain thing,—as for instance, to read a sentence or a verse, or sing a phrase of music, or make a drawing or a diagram on the blackboard,—this hesitating and unready behaviour is still more likely to show itself, even among the best pupils, and may prove for the moment a serious embarrassment and annoyance. This may sometimes go so far as to defeat the mode of conducting the exercise altogether, and compel the teacher to fall back upon a different line of procedure, not without an uneasy sense of discomfiture. The phenomenon is simply a failure to respond. There appears no sufficient reason;

it is as if a kind of mental paralysis bound the class with a spell of silence. Of course the teacher manages to find some way out of the difficulty, but there is loss of time, and, perhaps, some loss of temper.

Only the other day I chanced to be present during an interesting lesson given by an accomplished teacher to a bright class of boys and girls. As often, on an average, as once in every three or four minutes, it happened that the instructor would put to the class a question that failed utterly to elicit any intelligible response. The questions were generally pertinent, easy and clear; a visitor not used to class teaching would have expected an answer in chorus; but nothing came back except a timid confused murmur, and not always so much as that. This is not a rare or exceptional case; it is, indeed, of such common occurrence that most teachers seem to accept it as inevitable,—a sort of necessary margin or waste, to be "charged to profit and loss," and so at length it passes almost unnoticed, and we forget to enquire what is the cause and whether there is any remedy. But I am confident that, slight as it may seem at first thought, some evil consequences flow from the habit that give it a claim upon our consideration; the least of these has been alluded to, namely, the waste of time. Considerable observation leads me to estimate this loss roughly,—for of course one cannot be accurate in such a matter,—at about one-sixth of the whole time occupied by school lessons. But even one-tenth would be too much to throw away. Obviously, not all the silence that follows questioning is to be counted as lost time. The silence of thought, or of preparation to speak, is often fruitful of the best activity the mind can have; what is meant is the silence of stagnation, and this is worse than waste, for reasons to be now stated.

The current of instruction, when unchecked, gathers strength by its onward flow. The mind warms and expands in action. The sense of effort disappears; friction is converted into exhilarating stimulus. This momentum of continuous, free mental activity is one of the triumphs of our art. Like all exalted states of mind, it is hard to initiate, and still harder to maintain at its height. It bears no interruptions. The least flagging of teacher or a class the smallest disturbance of their mutual good feeling, and the glow, subsides. The teacher finds himself "hammering cold iron." Nothing will affect this change quicker than void silence at the moment when a prompt response is asked for. The whole line wavers and falls back; the spontaneity is gone. Now, of all that bears the name of teaching, the dreariest and least productive is that where the inertia of a class has to be overcome at every step. This is why all writers on education lay so much stress upon the art of inciting the mind of the learner to spontaneous activity. That the pupil really learns *only* in this way—that is, by what is called self-activity—is one of the commonplaces of modern pedagogy. Any failure at this point violates a vital principle, and touches the very life of instruction. This effect, then—this loss, not of time, but of spontaneity, of readiness and frankness in a class,—is the gravest consequence of the backwardness of pupils in responding and volunteering.

Others might be mentioned, such as loss of continuity in the lesson, loss of serenity in the teacher, and so on; but I will pass to the question, What is the nature of this backwardness, and to what is it due? It is a somewhat complex product. In the first place, the mere changes of mental attitude from listening to speaking requires a little time. Listening is like riding backwards; we see only the ground we have gone over, and have little concern for what is to come. In speaking, we face the other way, and must make out everything before we get to it. We take the reins, and assume a new responsibility. There may well be a moment of deliberation here; nor should the pupil be pressed at this point, except in the few cases where lessons have been given out to be learnt by heart and recited word for word. An automatic answer may be given instantly, but not a thoughtful one. Nor should it be forgotten here that a child's consciousness of his own mental state is by no means well defined. He knows much that he is unconscious that he knows. His impressions are vague, and must have time to rise into clearer view before he can give them expression.

Then there is often a shirking of labour and pains. The question seems to call upon the class for extra effort, over and above what the lesson strictly demands, and this they appear unwilling to make. They are like laborers who refuse to do overwork without additional pay. The answering of general questions does not promise "marks," and pupils, by an instinctive economy, prefer to save themselves for what is absolutely required. The motive, though usually unconscious, is not without prevailing influence.

Thirdly and chiefly, I think, this backwardness is due to timidity. I used to call it intellectual cowardice, but cowardice is too harsh a name. We seem to demand not only answers, but accurate and pertinent answers, and this, for young people, is a high demand. More than this, the teacher's manner often seems to say, "Give me the particular answer that I have in my own mind." This sort of catechising we are exceedingly apt to fall into, and no wonder the pupil learns to resist its unreasonable demands by silence. Here is the main source and cause of the difficulty under consideration, and here also is to be found the reason why this reserve and reluctance grows with years, and is more marked in older than in younger pupils. Does it not, indeed, reach high-water mark in teachers themselves, when convened as an "institute"? It is nothing short of comical to hear the appeals of an institute instructor to the teacher-pupils before him for prompt and general responses, and then to note the utter silence that he often gets for his pains. They fear him as they fear the roaring lion. It is far otherwise with little children. They are ready enough to express their thoughts and their queer little opinions until, taught by oft-repeated rebuke for error or irrelevance or forwardness, they learn at length the prudence of holding their tongues. They learn this lesson too soon and too well. A few years later we try in vain to coax them out of the safe burrows of silence into which they retreated to escape our censure.

General Information.

GEORGE BIDDER, THE "CALCULATING BOY."

There died lately in England a man of prodigious arithmetical power, whose mental faculties would afford matter for profound research to the psychologist. George Bidder made his mark in early life as a "calculating boy;" but in him one overgrown faculty did not eclipse all the other mental powers, for throughout life (he died aged seventy-two years) he evinced first-rate business ability, and in fact accumulated a large fortune by his own exertions. Nor did his mathematical faculty decline as his other powers matured; to the last he was capable of the same astonishing feats of calculation which made him remarkable as a boy. Instances of his extraordinary powers are given in a letter written by James Elliot, Professor of Mathematics in Queen's College, Liverpool, who was Bidder's fellow-student in Edinburgh. Of these we quote two: A person might read to Bidder two series of fifteen figures each, and, without seeing or writing down a single figure, he could multiply the one by the other without error. Once, while he was giving evidence before a Parliamentary committee, counsel on the opposite side interrupted him with, "You might as well profess to tell us how many gallons of water flow through Westminster Bridge in an hour." "I can tell you that too," was the reply, and he gave the number instantaneously.

Certain interesting facts are mentioned with regard to the possession of the same or similar powers by the members of Bidder's family. His eldest son, who is a successful barrister, can play two games of chess simultaneously without seeing the board. Like his

father, he can multiply fifteen figures by fifteen without seeing them, but by a peculiar process. One of the grandsons showed a very marked degree of mechanical ingenuity. Even the granddaughters possess extraordinary powers of calculation. George Bidder's elder brother, a Unitarian minister, was not remarkable as an arithmetician, but had an extraordinary memory for Bible texts, and could quote almost any text in the Bible, and give chapter and verse. Another brother was an excellent mathematician, and was actuary of a great life insurance company.

THE GRAVE OF COLUMBUS.

It is generally supposed that the bones of Christopher Columbus, the great explorer, are at Havana, in the island of Cuba. But recent investigations have brought to light the fact that it was Columbus' son who was removed there. Let us go back to the first resting place of Columbus, for death did not end his voyages.

He died in 1506 in Valladolid, north-central part of Spain, where he was buried. Then he was removed farther south to Seville and a handsome monument erected by Ferdinand and Isabella; on it were engraved these words:

"To Castile and Leon
Colon gave a new world."

Columbus had made a request in his will that he should be buried in his beloved Hispaniola; and now this idea was brought forward and his remains deposited in the cathedral of Santo Domingo, Hayti. Here also his son Diego, and grandson Luis were interred.

At the close of the war between France and Spain, in 1795, it was stipulated that Spain should cede to the French "all the Spanish part of the island of Santo Domingo," or Hayti. Accordingly. Columbus was once more—as then thought—exhumed and conveyed to Havana with great pomp and ceremony. And a slab which marks the place has engraved in Spanish,

"Oh, rest thee, image of the great Colon,
Thousand centuries remain guarded in the urn,
And in the rememberance of our nation."

In 1877, while men were working in the cathedral of San Domingo, they found a metallic casket which held human remains; on the cover, under the dust and dirt of three hundred years, were found the words, "Discoverer of America, First Admiral, most illustrious and renowned personage, Don Cristoval Colon." Every one who was present accepted this proof that the body of the great discoverer had not been taken away to Havana, but was before their eyes, and Diego's had been removed by a mistake. So, now, the matter rests in this way. Learned scholars are thinking of erecting a monument which should belong to the world, and not limited to the gratification of local or national pride. But such things move slowly, and perhaps it will never be accomplished.—*Scholar's Companion.*

STATISTICS OF POPULATION.

In "Petermann's Mittheilungen" the population of the globe is estimated, for 1877, at 1,429,145,000 souls, occupying a superficial area of 134,460,000 square kilometres. Inhabitants are distributed among the continents as follows: in Europe, 312,398,480; in Asia, 813,000,000; in Africa, 205,219,500; in Australia and its islands, 4,411,300; in America, 86,116,000. Between 1875 and 1877, the whole population increased by 42,000,000. This increase, however, does not depend on the very great excess of births over deaths, but is the result of more accurate enumeration, and more extended knowledge of various localities. The populations of European countries, in 1877, were: Belgium, 5,336,185; Holland, 3,865,456; England, 34,242,966; Italy, 27,769,475; Germany, 42,727,360; France, 36,905,788; Switzerland, 2,759,854; Austria, 37,350,000; Denmark, 1,905,000; Spain, 16,526,511; Portugal, 4,057,538; Greece, 1,457,894, European Turkey (exclusive of the tributary states), 9,573,000; European Russia, 72,392,927; Sweden and Norway, 6,237,268. As regards the proportion of the sexes, there were to 1,000 men in the Canary Islands 1,208 females; in Sweden, 1,064; Switzerland, 1,045; England, 1,043; Germany, 1,037; Austria, 1,024; Russia, 1,022; Spain, 1,016; France, 1,007; Italy, 989; Belgium, 985; Greece, 983; North America, 978; Brazil, 938; Egypt, 1,025; Japan, 971; Siberia, 934.

COMMON-SENSE IN EMERGENCIES.—The story is told of Brunelo the eminent engineer and builder of the Thames tunnel, that one day, while amusing a child with tricks of sleight-of-hand, he attempted one which resulted in a serious accident to himself, and at the same time illustrated the danger of playing pranks with the mouth. The trick consisted in adroitly concealing a half sovereign in his mouth and pretending to bring it out at his ear. All at once to his dismay the coin slipped down into his gullet, and there stuck, in spite of every effort, surgical or otherwise, to dislodge it. In this dilemma common-sense came to the rescue. Brunel himself devised an apparatus to which he was strapped head downward, keeping his mouth open, when, to his inexpressible relief, the coin dropped from its dangerous position and rolled out upon the floor. A sword-swallower, who once lost a bayonet in his throat during one of his public performances, resorted to similar means for recovering it, and was equally successful.

—Henry Clay once said: "I owe my success in life to one fact, namely: At the age of twenty-seven I commenced and continued for years the practice of reading and speaking upon the contents of some historical or scientific book. These off-hand efforts were made sometimes in a cornfield, at others in a forest, and not unfrequently in some distant barn, with the horse and ox for my auditors. It is to this early practice in the great art of arts that I am indebted for the primary and leading impulse that stimulated me forward and shaped and moulded my entire subsequent destiny. Improve, then, young gentlemen, the superior advantages you here enjoy. Let no day pass without exercising your power of speech. There is no pay like oratory. Cæsar controlled men by exciting their fears; Cicero by captivating their affections and swaying their passions. The influence of the one perishes with the author; that of the other continues to this day."

Notes and News

ONTARIO.

Mr. J. A. Clarke, M.A., B. Sc., after spending a term at the Science School Faraday, Victoria University, Cobourg, accepted the head-mastership of the high school, Smiths Falls, where he has been doing good work. Mr. J. M. Buchan, High School Inspector, on a recent visit pronounced the Smith's Falls High School to be in the best condition he had ever seen it, and expressed his opinion that the prospects for its success in the future were very hopeful.

We find the following note in an exchange: "Every Chatham school teacher (the gentlemen at all events, if not the ladies) is not only expected to attend the Association meetings, but to write out an independent synopsis thereof for the School Board. It is rumored that brevity in such reports is not a wholly displeasing feature to the scholastic magnates before whom these resumes are read."

Thirty-six pupils from Waterdown High School are intending to write for the Intermediate Examination.

A monthly record of class work done in the Milton Public School is published in the local newspaper.

The separate schools at Lindsay have received special commendation from Dr. J. A. McLellan, High School Inspector. Of the primary schools he states that they are well conducted and doing satisfactory work; of the advanced, that the scholars did unusually well in reading, writing, spelling and arithmetic. In the last subject the answering was very good. Of the select school he reports that the answering would have done credit to any high school. The training and culture of the pupils met with the Inspector's warmest praise. We congratulate the Rev. Father Stafford and the teachers on the efficiency of these schools, which reflects much credit on his superintendence and their close attention to their important work.

Mr. Cortez Fessenden, H. M. Napanee High School, has been appointed a member of the Board of Examiners for Public Schools.

The students of Toronto Normal School presented Rev. Dr. Davies, Principal, with an address at the close of the last session, thanking him and his fellow-teachers for the deep interest shown in their welfare during the session.

NOVA SCOTIA.

The annual examination for Teachers' Licenses takes place on the 19th inst. and following days.

The second Annual Meeting of the Provincial Educational Association is announced to be held at Truro on the 13th and 14th of this month. The indications are that the sessions will be of great interest. The important matter of a uniform course of study for the Public Schools comes up for discussion. We hope to give a full report next month.

The Anniversary Exercises of Acadia College were held in the

spacious hall of the new College building on the 2nd of June. The orations by members of the Graduating Class were as follows:

THE VOICE OF THE PLEBS.—Horatio H. Welton, Wolfville.

EDUCATION AND THE BALLOT.—Frank Andrews, Wilmot.

EVOLUTION AND MATERIALISM.—Albert J. Pineo, Berwick.

ADDISON AS SOCIAL REFORMER.—John Donaldson, Wolfville.

ABILITY, NATURAL AND ACQUIRED.—Sydney Welton, Kingston.

TRIAL BY ORDEAL.—Henry D. Bentley, Wolfville.

THE REFORM BILL OF 1832.—Edward B. Webber, Sackville.

MONUMENTA.—Orlando T. Daniels, Lawrencetown.

THE IDEAL CHARACTERS OF GEORGE ELIOT.—Edward R. Curry, Windsor.

A VIEW OF THE IRISH QUESTION.—Wm. F. Parker, Dartmouth.

THE DIVINE AND HUMAN IN GREEK LIFE.—Arthur C. Chute, Stewiacke.

The Degree of A.M. was conferred on the Revs. J. L. Dewolf, and W. H. Robinson in regular course, and that of D.D., *pro causa honoris*, on the Revs. J. E. Bill, George Armstrong and S. U. DeBlois. At the close of the Convocation, short addresses were delivered by the recipients of honorary degrees, Dr. Rand, Chief Superintendent of Education for the Province of New Brunswick, Col. A. W. Drayson, R. A., formerly Professor of Surveying and Astronomy at the Royal Military College, Woolwich, and by the President, Rev. A. W. Sawyer, D.D. The other exercises connected with the anniversary were very interesting. The Horton Academy (for boys) and the Acadia Seminary (for young ladies) were reported to be in a prosperous condition. These flourishing institutions are under the control of the Baptist denomination.

The Alumni Dinner, under the genial and efficient chairmanship of J. W. Longley, Esq., of Halifax, President of the Alumni Association, was a most enjoyable "feast of reason and flow of soul." The toast of "Acadia College" was responded to in eloquent terms by the President, Rev. Dr. Sawyer, who expressed strong faith in the development and perpetuity of the institution. Col. Drayson spoke appropriately for "the Army and Navy." Dr. Rand, as representing the body of the Alumni, revived, in a touching and impressive manner, "Memories of College Days. "Sister Colleges" were represented by Dr. Allison, Superintendent of Education, R. Sedgewick, Esq., President of the Alumni Association of Dalhousie College, and Dr. J. G. Macgregor, Professor of Physics in Dalhousie. Among important items of business announced we note the following:

The chair of Natural Science becoming vacant by the resignation of Professor Kennedy, Dr. Blaikie, of Edinburgh, son of Dr. Blaikie who was on a visit to Halifax last year in relation to the Vaudois and Waldensian Churches, was appointed to fill the vacancy.

Dr. A. D. W. Barss having resigned the Treasurership of the College, Mr. X. Z. Chipman was appointed Treasurer in his place.

The governors determined to sustain the Theological Department, and commissioned Rev. Dr. Crawley and Rev. Dr. Welton to spend much of the present summer in an endeavor to secure from the friends of the College an endowment of $200,000 for that department.

C. F. Frazer, Esq., Principal of the Nova Scotia Institute for the Blind, delivered, on the 16th ult., in the Academy of Music, Halifax, a memorable lecture in advocacy of the claims of the blind to a free education. The chair was occupied by the Lieutenant-Governor, and the platform filled with distinguished representatives of all the professions. The lecture was replete with curious and valuable information, and the claims of the unfortunate class in whose interest it was delivered were eloquently urged on grounds of patriotism, justice and philanthropy.

The authorities of the leading New England Colleges have undertaken and are maturing arrangements for uniform requisitions for admission, from which much advantage must accrue to the Colleges themselves, to the preparatory schools, and to the cause of Education as a whole. The movement was entered on with a good deal of hesitation, but has made unexpectedly rapid progress. In the Autumn of 1879, ten of the New England Colleges—Harvard, Yale, Brown, Dartmouth, Williams, Amherst, Wesleyan, Trinity, Tufts, and Boston University, agreed to the holding of four conferences of Examiners for the purpose of testing the practicability of agreement upon requisitions in the four departments of Greek, Latin, Mathematics and English. These conferences were held; the Greek examiners meeting at Cambridge, the Latin at New Haven, the Mathematical at Providence, and the English at Hartford.

In each conference the examiners arrived at results practically unanimous, and when the standards recommended by them respectively were submitted to the various Faculties, the decisions of the Faculties were favourable far beyond original anticipations. A majority of the Colleges have either modified the entrance requirements in accordance with the recommendations of the examiners, or have reached the decision to do so for the incoming year. Further conferences are provided for, and will, no doubt, result in the complete unification of standards of admission to a large majority of the leading Colleges of the American Union.

The latest phase of the college question in Nova Scotia is indicated by the subjoined reports taken from our Halifax exchanges.

1. Requisition for a conference of Alumni:

To the President and other Officers of the Alumni Associations of King's, Dalhousie, Acadia and Mount Allison Colleges:

We, the undersigned members of one or other of the above named Alumni Associations, are of opinion that in view of the recent action of the Legislature of Nova Scotia with reference to higher education, it is exceedingly desirable that a conference of the several Associations should be held, for the purpose of discussing the advisability and feasibility of university consolidation.

We therefore venture to request that you take such measures as may be requisite to bring about such a conference.

The signers of this requisition embrace the entire faculties of Dalhousie and King's Colleges, a majority of the faculty of Acadia College, a leading professor of Mount Allison College, the Chancellor of Halifax, and a large number of representative Alumni.

2. Reply of the Alumni Association of Dalhousie College:

Whereas, There has been laid before the Association a petition numerously signed by members of the Alumni Associations of King's, Dalhousie, Acadia and Mount Allison Colleges, requesting the Presidents and officers to take steps to bring about a conference for the consideration of the subject of university consolidation.

Therefore resolved, That the Executive of this Association be empowered to make all necessary arrangements for the carrying out of the prayer of the petition, and to appoint as many as they may deem advisable of the ordinary and honorary members to attend such conference with full power as representatives of this Association.

Another resolution was adopted pledging the Association to use every means in its power to promote the consolidation of the colleges, and respectfully request the Governors of Dalhousie College to take such steps as they may deem advisable to attain the object in view.

3. Reply of the Associated Alumni of Acadia College:

We decline the proposed conference for the following reasons: In our opinion Acadia College was established to continue for ever as such, and she could not if she would, and certainly would not if she could, consolidate her energies and revenues with those of other colleges. Such being the case, the proposed conference, so far as we are concerned, would be utterly useless. Besides, we are not the governors of the college, and have no authority to consolidate, if we so desired; and to the governors, if to any one, we think the proposal should have been made. Further, all our available time and energies are due, and may be most usefully given to conferences of our own, in order, in every way open to us, to build up and strengthen our own Alma Mater, which has already accomplished a great work for these provinces, and for the Baptist denomination particularly; and, under the generous and fostering care of that body, is destined to go on multiplying her benefits to many generations. University consolidation once was possible in Nova Scotia, but why now discuss what simply might have been? It is no longer among the possibilities. Let it be irrevocably relegated, so far as we are concerned, at least, to the shadowy realm of things that might, could, would, or should have been.

This resolution was carried by a vote of 12 to 9 over an amendment moved by Prof. Schurman to the effect that this Association do not adopt the clause of the report of the executive committee, but that while declining to commit themselves on the question of University Consolidation in Nova Scotia, they are nevertheless prepared to meet other representatives of other Alumni Associations to discuss the advisability and feasibility of such a step, provided such a conference can be held under such circumstances as will duly preserve the interests of this association.

4. Reply of the Alumni Society of Mount Allison College:

This society regards further discussion of the question of the consolidation of the colleges into one central teaching college as an unnecessary and useless attempt to accomplish what is utterly im-

practicable; but that we invite the Alumni of all the other colleges to meet with a delegation from this society to discuss the desirability and feasibility of united action in receiving and sustaining the University of Halifax scheme, or any other scheme based on its principles.

This resolution was passed by a vote of 12 to 9, as an amendment to the following resolution:

Resolved, That without expressing an opinion as to the feasibility or desirability of university consolidation, this Society instructs the President and Council to take such steps as may be necessary to secure the conference prayed for by the Alumni of Acadia, Dalhousie, King and Mount Allison.

We have observed no report of action taken in the matter by the Alumni Association of King's College.

Readings and Recitations.

THE CHILDREN.

The following lines were found in the desk of Charles Dickens after his death:—

When the lessons and tasks are all ended,
And the school for the day is dismissed,
And the little ones gather around me
To bid me "Good night" and be kissed;
Oh, the little white arms that encircle
My neck in a tender embrace!
Oh, the smiles that are halos of heaven
Shedding sunshine and love on my face!

And when they are gone I sit dreaming
Of my childhood, too lovely to last;
Of love that my heart will remember
When it wakes to the pulse of the past.
Ere the world and its wickedness made me
A partner of sorrow and sin—
When the glory of God was about me,
And the glory of gladness within.

Oh, my heart grows weak as a woman's,
And the fountain of feelings will flow,
When I think of the paths steep and stony,
Where the feet of the dear ones must go;
Of the mountains of sin hanging o'er them,
Of the tempests of fate blowing wild;
Oh, there's nothing on earth half so holy
As the innocent heart of a child.

They are idols of hearts and of households,
They are angels of God in disguise—
His sunlight still sleeps in their tresses,
His glory still beams in their eyes;
Oh, those truants from earth and from heaven,
They have made me more manly and mild,
And I know now how Jesus could liken
The Kingdom of God to a Child.

Seek not a life for the dear ones
All radiant as others have done,
But that life may have just as much shadow
To temper the glare of the sun;
I would pray God to guard them from evil,
But my prayer would bound back to myself;
Ah! a seraph may pray for a sinner,
But a sinner must pray for himself.

The twig is so easily bended,
I have banished the rule and the rod;
I have taught them the goodness of knowledge,
They have taught me the goodness of God.
My heart is a dungeon of darkness,
When I shut them from breaking a rule,
My frown is sufficient correction,
My love is the law of the school.

I shall leave the old house in the Autumn,
To traverse its threshold no more;
Ah! how shall I look for the dear ones
That meet me each morn at the door.
I shall miss the "Good nights" and the kisses
And the gush of their innocent glee,
The group on the green, and the flowers
That are brought every morning to me.

I shall miss them at noon and at even,
Their song in the school and the street;
I shall miss the low hum of their voices,
And the tramp of their delicate feet.
When the lessons and tasks are all ended,
And death says the school is dismissed,
May the little ones gather around me,
And bid me "Good night" and be kissed!

Teachers' Associations.

The publishers of the JOURNAL will be obliged to Inspectors and Secretaries of Teachers' Associations if they will send for publication programmes of meetings to be held, and *brief* accounts of meetings held.

EAST KENT.—The teachers of East Kent held their semi-annual meeting in Ridgetown on Friday and Saturday, May 27th and 28th. The President, Mr. Masales, occupied the chair. The meeting was opened by a discussion on the "Half-time system," as applied to the daily work of the school-room. This drew forth expressions from many teachers, and all seemed to regard it as a step in the right direction; especially so in the case of junior pupils. No resolutions were passed, but it is quite probable it will be introduced at some future meeting when a more decided stand will be taken. An essay on the "Physiology of the Respiratory Organs," by W. H. Carleton, was well received. His essay was well written and showed a complete knowledge of the subject. The ventilation, etc., of the school-room was well treated upon in "Hygiene of the School-room," by E. B. Harrison, I. P. S. J. E. Pickard gave some admirable methods of presenting Grammar to junior pupils. On Saturday, E. B. Harrison, I. P. S., read a departmental communication in regard to the Relief Fund. A warm discussion ensued and the several clauses were voted upon by the Association. The election of officers was postponed until the next meeting of the Association on the first Thursday and Friday in October next.

W. S. MCBRAYNE, *Secretary*.

NORTHUMBERLAND.—The semi-annual meeting of the teachers of this County was held in Colborne on 12th and 13th May. The chair was occupied by the President, D. C. McHenry, M. A., Principal of Cobourg Collegiate Institute. The following subjects were discussed: "Book-keeping," introduced by W. J. Black; "Spelling," by J. T. Slater; "Relation of Teachers to Parents," by E. J. Flewelling; "School Legislation and Regulations," by D. C. McHenry, M. A.; "Algebra," by W. S. Ellis, B. Sc.; "Morals and Manners," by G. Dowler; "Question Drawer," by G. K. Knight, B. A.; R. K. Orr, B. A., and W. E. Sprague, H. M. Model School. The discussions were vigorous and unusually interesting, and elicited much valuable information. The thorough manner in which the leaders on the various subjects executed their part of the programme was one of the commendable features of the Association, and, we are persuaded, conduced largely to its success. On Friday afternoon the vexatious question of superannuation was brought up. After a somewhat animated discussion the Association decided to take no definite action in the matter until its next meeting in October. A peculiar case of school discipline was then brought before the meeting. A pupil in the township of Haldimand had been detained from school for two days by his parents; on being sent to the school on the afternoon of the second day to secure the lessons for the day following, he arrived as school was being dismissed, and while in the room committed an offence for which the teacher administered mild corporal punishment. For this he (the teacher) was summoned before a magistrate and fined, on the ground that the boy was *not a pupil* of the school when the offence was committed. A resolution was unanimously adopted by the Association, expressing sympathy for the teacher, and condemning the action of the parent and the decision of the magistrate, and promising aid, if requisite, to appeal the case. Excellent music was furnished by the young people of Colborne.

NORTH YORK.—The semi-annual Convention of this Association was held in the Model School, Newmarket, on the 3rd and 4th ult. The President, Mr. D. Fotheringham, I. P.S., opened the proceedings at 10 a.m. with devotional exercises, after which the minutes of the previous meeting were read by Mr. S. E. Jewitt, Secretary-treasurer, and confirmed. Miss McMurchy's 2nd class being present, it was resolved to have them put through a reading lesson, showing that lady's plan of teaching the subject. This was done in a manner reflecting the highest credit on both teacher and pupils. The President afterwards gave an illustrative object-lesson to the same class, taking as his "object" a school crayon box, and several new features and ideas were elicited not previously discernible in that useful receptacle. During this exercise the Vice-President, Mr. G. Rose, occupied the chair, and Mr. Fotheringham's interesting lesson was criticized with much spirit by Messrs. McMurchy, S. Holland, Hall, Brody, Vandewater, Armstrong, McMahon and Dunton. A committee, consisting of Messrs. Rose, Rannie, McMahon, and McMurchy, was appointed to nominate officers for the ensu-

ing twelve months. In the afternoon Miss Thompson taught a 3rd class in spelling and meanings, and exemplified her system of teaching that useful branch, which led to an animated discussson by Messrs. J. E. Dickson, B.A., Holland, McMahon, Jewett, and Armstrong. Miss Thompson ably defended her plan, which seemed to be extremely practical. Mr. D. Hall then recited with much ability "The Defence of the Bridge." Mr. J. E. Dickson, H. M. Newmarket H. School, took up a portion of "The Lady of the Lake," and, acting as if the members present were a class, led them through the analysis, grammatical construction, rhythm, and history of the passages in a manner that showed his perfect knowledge of the subject. The committee on nomination handed in their report, which, after some amendments, resulted in the re-election of the several officers, with Messrs. McMahon, Holland, Dickson, and Love as Committee of Management. Mr. W. Rannie, H. M. Newmarket Model School, gave notice that at next convention he would move that the constitution be amended so as to admit of an Assistant Secretary being made an officer of the Association. In the evening a large audience, composed of the teachers and townsfolk, occupied the same room to hear a lecture given by Mr. James L. Hughes, Inspector of City Schools, Toronto. On the motion of Mr. Fotheringham, Mr. Bastedo, Chairman of the local school-board, was voted to the chair, who, after a few well pointed remarks, introduced the talented lecturer. Mr. Hughes took up the subject of "School-room Humor," and for two hours he fairly delighted the audience with the admirable sketches of school life which he graphically depicted. The school-boy, the teacher, the trustee, the angry parent, and the economical member of parliament were individually criticized from a humorous point of view; while from each individual instance the lecturer in his closing words drew a parallel showing the serious nature of the teacher's labor, how he might combat with wrong and maintain the right; elevate himself and ennoble his profession; and dissipate darkness, ignorance, and intolerance by spreading the bright rays of wisdom, truth, and education in the sphere wherein his lot is cast. During the delivery of the lecture rounds of applause greeted almost every sentence, and at its conclusion the peals were deafening. The Rev. Mr. Rose, in very happy language, moved a hearty vote of thanks to the lecturer for his humorous, interesting, and highly instructive address. It was seconded by Rev. Mr. Frizzell and carried by acclamation. A vote of thanks to the Chairman concluded a pleasant and profitable evening's entertainment. After devotional exercises the next day, the Auditor's report was received and adopted, and it was decided that the funds in hand be given to the Treasurer to be placed by him in the local bank. Messrs. Martin and Hall were appointed auditors for the ensuing year. The superannuation question was then taken up and discussed. In this matter Mr. Hughes gave his valuable assistance, which guided the convention to arrange the matter on a footing similar to that adopted by the Toronto Teachers' Association, and the alterations were handed over to Messrs. Rose, Dickson, Rannie, and Martin to be summarized and adjusted. Mr. Hughes was invited to show his system of teaching History *topically*, and the simple arrangement whereby this generally uninteresting subject may be made to fasten itself on a child's memory, was highly appreciated by the members. He also illustrated an easy and attractive method of teaching Industrial Drawing to young children. The teachers present, who imagined that it required an accomplished artist to undertake this task, were astonished at the graceful figures drawn on the black-board from the few simple rules laid down by Mr. Hughes. From the copies made by some of the members in their note-books it is not improbable that the subject will be effectively introduced into the schools of North York. On the motion of J. E. Dickson, B. A., seconded by Mr. W. Rannie, the warm thanks of the Association were tendered to Mr. Hughes for his kind and able services at the Convention, and his admirable lecture the previous evening. It was carried with enthusiasm, and after transacting some routine business the proceedings closed.

Lennox and Addington.—This Association met in its first session of 1881 in the Model School, Napanee, on Friday and Saturday, the 6th and 7th of May. The President, F. Burrows, Esq., I. P. S., occupied the chair. About 70 teachere were present at the opening, but before the session closed the number was increased to about 115. After routine the election of officers for the year was proceeded with. Inspector Burrows was unanimously re-elected President; Mr. Bowerman, first Vice-President; Mrs. Pomeroy, second Vice-President; Mr. Cortez Fessenden, Treasurer; Mr. Kimmerly, Secretary; Messrs. Storms and Hart, Miss Bush, Miss Gum, and Mrs. McKin were elected members of the Managing Committee. Messrs. Black and Mabee were elected auditors for the year. Mr. Bowerman was appointed a delegate to the next meeting of the Provincial Teachers' Association. Messrs. Fessender and Burrows were strongly in favor of having the Provincial Teachers' Association made a representative body. A resolution moved by Mr. Bowerman, and seconded by Mr. Black, that, "in the opinion of this Association, it is highly desirable that the Provincial Teachers' Association be made entirely representative," was adopted. Mr. Mabee stated that he had written to the Education Department asking whether Easter Monday is a holiday for rural schools or not. He had received a reply to the effect that it is a holiday for rural schools as well as for any others, according to law. Mr. Burrows referred to the changes in the School Law with regard to shortening the summer vacation. The regular programme for the session was then taken up. Mrs. Pomeroy illustrated, by means of class, her method of teaching elementary Geography. Mr. Martyn, of the Newburg High School, took up the subject of Arithmetic to beginners. He showed a very practical method of introducing the subject to the young, and urged the necessity of giving pupils a thorough drill in the elementary rules. Messrs. W. J. Black and Geo. Paul each read a practical paper on "School Management," covering the whole ground of the subject. Mr. Mr. Irvin, of Bath, introduced the subject of "Uniform Promotion Examinations." He was very much in favor of such examinations, as he had seen them carried out in other counties. After some remarks in support of Mr. Irwin's views by different members of the Association, it was resolved that "a committee consisting of Messrs. Burrows, Fessenden, Irwin, Tynsdale, Mabee, and Bowerman be appointed to devise some practical scheme for Uniform Promotion Examinations in this county, to be carried into effect as soon as possible." *Second day.*—Mr. Burrows brought forward the subject of Superannuation of Teachers. A communication from the Legislative Committee of the Provincial Teachers' Association in reference to the proposed changes in the law regarding the superannuation of teachers was read and referred to the Committee before mentioned. Mr. Bowerman, in taking up the subject "School Hygiene," confined himself to the *eyesight*, and gave some excellent hints on the prevention of *myopia* in pupils. Mr. Buchan, High School Inspector, then gave a very interesting and instructive address on the study of "English," going over all the branches of the English course for Public Schools. No mere synopsis of the address would do justice to the speaker. Afterwards Mr. Buchan was unanimously elected an honorary member of the Association. The Association then adjourned. On Friday evening a public meeting was held at which Hon. John Stevenson presided. After a class drill in calisthenies by Miss Fraser, of the Napanee Model School, Mr. Buchan delivered a lecture on "Poetry and Politics" to an appreciative audience.

West Victoria.—The eighth semi-annual meeting of the above Association was held in the School House, Woodville, on the 10th and 11th ult., and was a splendid success in every respect. In the absence of Inspector Reazin, President, the Association was called to order by Mr. Fowler, Vice-President. Mr. J. Campbell introduced the subject "Composition." He handled it in a masterly style, and pointed out the necessity of early cultivation of good English in pupils. Mr. Wm. Campbell took the subject "Mathematical Geography," and dwelt on those points most likely to puzzle the minds of young children. He was followed by Mr. D. McDougall, who gave an interesting lesson on "Fractions," and he illustrated his method of presenting each successive step on this subject. A general discussion followed and the Convention adjourned. The first half hour in the afternoon session was occupied in transacting some formal business. The officers elected for the ensuing year:—President, H. Reazin, I. P. S.; Vice-President, J. Brethour, B.A.; Sec.-treas., L. Gilchrist. Managing Committee—Messrs. Fowler, Cundall, McLauchlin, Graham, and McDougall. Mr. Reazin, I. P. S., read the circular respecting the Superannuated Teachers' Fund, as submitted by the Legislative Council. Each clause was taken *seriatim*, and a number of resolutions adopted. First, opposing any change in the name or management of the fund. Second, opposing any change in payments to the fund, other than that the payment should be yearly instead of half-yearly and deducted from the legislative grant. Third, the limit as to age in Clause 9 be struck out, and the periods of service be shortened to ladies twenty years' and gentlemen twenty-five years' service. After a lively discussion the subject was dropped and the programme resumed. Mr. A. C. Graham was then called upon to take the subject of "English Infinitives." He read a very concise and well-arranged paper, and dealt on the derivation and uses of the infinitive and gerund. He was followed by Mr. McRae, who gave an interesting lecture on "History," pointing out the necessity of much reading on the part of teachers to be good historians. A short discussion followed, and the Convention then adjourned to meet in the evening. At eight o'clock a crowded audience assembled in the Town Hall. The President occupied the chair. The programme consisted of an essay on Education by J. Shaw, M.A., Head Master of the Omemee High School, and a good selection of vocal and instrumental music interspersed with readings. The solos by Miss Talbot, Miss Grant, and Miss Stuart, and the instrumental music by Miss Tooke, were received with applause and encored. Towards the close of the meeting Messrs. Cundall and Fowler, on behalf of the teachers of West Victoria, presented Mr. Reazin with a "gold watch and chain." Mr. Reazin replied in suitable terms. Votes of thanks were tendered to Mr. Shaw for his admirable essay, to the ladies and gentlemen who furnished the music and reading, and to Mr. S. C. Rodgers for the use of an excellent organ for the occasion. The meeting was closed by all joining in singing the National Anthem. The Convention assembled at 9.30 a.m., and after it was opened by the President with devotional exercises, Mr. P. H. Allen introduced the subject of "Stocks," with which he dealt very ably, and showed how a class might become proficient in this subject taking it mentally. Mr. McLauchlin then elucidated vari-

ous short methods of performing multiplication. After a short discussion by Messrs. Reazin, Shaw and McRae, Mr. E. R. Eddy read a very interesting and well-prepared essay on Reading. He strongly recommended a combination of the three leading modes of teaching the young, taking the look-and-say method as the base. A very interesting discussion followed, by Messrs. Reazin, Shaw and Eddy. In the absence of Inspector Knight, Mr. Shaw read an excellent essay entitled "A Paper on Paper," treating of its value as a medium for conveying knowledge, of its various uses in mercantile transactions, and of its original manufacture. The Convention then adjourned to meet again at the call of the president.

NORTH HASTINGS.—This Association met in Madoc, June 9th and 10th. After the usual routine business, Mr. Morton took up the subject of Writing, showing his method of teaching it. He would begin the teaching of script characters when the pupil enters Part II., giving him pen and ink when he enters the Second Reader. He was followed in discussion by Messrs. Kirk, Shannon and Mackintosh. In the afternoon the following officers were elected for the ensuing year :—President, Mr. Kirk ; Vice-President, Mr. Morton ; Secretary-treasurer. Miss Riddell ; Librarian, Miss McDermid ; Councillors—Miss Cosbey ; Messrs. Hobbs, Henderson, Rowe, Tait, Beall, Shannon and Mackintosh. Delegate to Provincial Association, Mr. Kirk. Mr. Kirk then showed his method of teaching Practical Arithmetic to Fourth Class, illustrating on the board the types of questions he would give to teach the pupil such Arithmetic as he would need after he left school. After a duet by Messrs. Kirk and Miller, the subject of the "Proposed changes in Superannuation Fund" was introduced by Mr. Tait, in an able essay. After a brief discussion a committee was appointed to take into consideration the proposed changes in the law, and report upon the same. During the discussion, Mr. Mackintosh left the chair which he had so long occupied as President, and it was moved by Mr. Morton, seconded by Mr. Tait, and unanimously carried, "That the thanks of this Asssociation be and are hereby tendered to the retiring President, Mr. Mackintosh, for the very courteous and able manner in which he has presided over our meetings, and for the untiring zeal which he has always manifested in our welfare as teachers." The proceedings of the afternoon were brought to a close by a duet by the Misses Christie. On the morning of June 10th, after the minutes of the previous day had been read and approved, the committee appointed to nominate Examiners for the coming Uniform Promotion Examination, reported the following as having been chosen :—Messrs. Sutherland, Beall, W. A. Shannon, Armour, Rowe, Tait, Morton, Hobbs, Boal, Jenkins, Henderson ; Misses Christie, Campbell, McDermid, Riddell. The report was adopted. The Geography of Ontario was then discussed by Mr. Sutherland, who, after mentioning the points to which he would give greatest attention, gave the Railroad system of the Province. He was followed in discussion by Messrs. Johnston, Kirk, Tait and Hobbs. After a reading by Mr. Rowe, Mr. Mackintosh spoke to the teachers at some length on the Uniform Promotion Examinations, giving advice as to the best methods of conducting them, examining papers, etc. After discussion it was resolved that not more than fifty per cent. of the value be given to any problem in Arithmetic of which the answer is not correct. It was also resolved to publish the names of the successful candidates for promotion to Fourth and Fifth, with the number of marks obtained by each. The subject of Composition was then introduced by Miss Riddell, and after a short discussion, in which Messrs. Johnston, Kirk, and Mackintosh took part, the meeting adjourned. In the afternoon the report of the committee on the Superannuation Fund was read, and after a very lively discussion it was resolved that this Association advise that the Fund be abolished, the money on hand to be refunded to those teachers who have paid into the Fund with interest at five per cent. After a duet by the Misses Christie, Mr. Johnston, I. P. S., South Hastings, took up the subject of Mental Arithmetic. It should, he said, be taught thoroughly to junior classes by means of very easy questions. After a reading by Mr. Sutherland, and a song by Mr. Miller, Mr. Mackintosh was called on to give his suggestions to teachers, but owing to the lateness of the hour he desired to postpone his remarks. One of the teachers having been thrown from a buggy on her way to the Convention, it was unanimously resolved that a committee of ladies be appointed to draft a letter of condolence to Miss Cosbey on account of the accident. Votes of thanks were given to Mr. Johnston, Mrs. and the Misses Christie, for their assistance in making the Convention successful ; and after singing the National Anthem, the Association adjourned.

SOUTH GREY.—This Association held its semi-annual Convention at Flesherton on the 19th and 20th May, and was largely attended. The Oddfellows of that town, with the kindness characteristic of that body, gave their neat, comfortable hall for the accommodation of the teachers, who seemed deeply sensible of the compliment. The President, Mr. W. Ferguson, I. P. S., opened the proceeding in the usual manner, and then delivered a very practical and encouraging address, in which he stated that educational matters during the past year were in a progressive state, the proportion of trained and higher graded teachers increased, and the work in the school-room, as a rule, more efficiently performed. Messrs. Armstrong, Galbraith, McMaster, Jones and McDonald were appointed a committee of nomination. Mr. Armstrong took up the subject of "Methods," which he treated of in an instructive and interesting paper. He was followed by Mr. Galbraith, who clearly and easily illustrated his plan of teaching "Geometry to Beginners." He did not approve of the memorizing idea, but adopted the reasoning style whereby the pupils were brought to understand the *why* and *wherefore* of every operation. All present acknowledged the superiority and applicability of Mr. Galbraith's plan. Mr. Jones took up "Teachers' Encouragements and Discouragements" as his subject, and treated it in a masterly manner. The proceedings in the afternoon were unusually interesting. The township of Melancthon and Shelbourne having been separated from South Grey to form part of the newly organized inspectoral district of Dufferin, the teachers from that township took occasion to express their feelings before the Convention. The vice-president, Mr. Armstrong, occupied the chair, while Mr. Mortimer read an address to Mr. Inspector Ferguson expressive of their high appreciation of his gentlemanly demeanour, courtesy and kindness, as their inspector and friend. Mr. Ferguson replied in feeling and appropriate language. Mr. R. D. Irvine read a carefully prepared paper on "Teaching Arithmetic to Beginners," and illustrated his method. Mr. J. Tait, of Collingwood Collegiate Institute, gave a very practical and highly instructive address on "Teaching English History," which was heard with great attention and was much appreciated. On the motion of the Rev. Mr. Barkwell, seconded by Mr. J. C. Bain, Sec., a special vote of thanks was accorded to Mr. Tait for his excellent address. Mr. McMaster then read a suggestive and well compiled paper on "Mistakes in teaching Reading to Beginners," which provoked a very animated and profitable discussion that was joined in by Rev. Mr. Barkwell, Messrs. Tait, Campbell and others. The Committee on nominations brought in their report, which, after two changes, was adopted, and the following are the officers for the ensuing year :—President, Mr. Armstrong ; Vice-President, Mr. Galbraith ; Secretary, Mr. John C. Bain ; delegate, Mr. Galbraith. Committee of Management—Messrs. McMaster, Hall, Leonard, D. McDonald, and N. W. Campbell. Auditors, Messrs. Irvine and Sharpe. Mr. Ferguson, who had been president since the commencement of the Association, was pressed to continue in that office, but he wished, for many reasons, to retire. In the evening an entertainment was given in the Division Court House, Mr. Richardson presiding. The spacious room was packed, and the programme seemed to give the greatest satisfaction. Songs were sung by Miss E. Damude, Rev. Mr. Barkley ; Miss Christoe and Miss Creeper (duet); Miss M. Vandusen and Miss A. Philp (duet) ; Miss Clara Phillips, Miss A. Trimble and Mr. McMaster (trio) ; Mr. Tait gave some humorous recitations which caused much merriment ; Mr. Jones read "Enoch Arden" with great taste and ability, and Mr. W. Ferguson told some amusing anecdotes. Dr. Christoe, Warden of the county, gave a brief address contrasting the old style of teaching with the modern, and bore high testimony to the efficiency of the schools in South Grey, and their marked progress under the able superintendence of the Inspector, Mr. Ferguson. The Rev. Mr. Philp welcomed the teachers to Flesherton, to whom he gave some stirring words of encouragement and sound advice. Mr. J. L. Robertson, of the CANADA SCHOOL JOURNAL, gave a brief address on the benefit of Teachers' Conventions. Mr. Ferguson thanked the people of Flesherton for their kind welcome and cordial reception, and moved a hearty vote of thanks to the members of the I. O. O. F., for the generous accommodation of the Convention in their handsome hall. It was seconded by Mr. Armstrong and carried with acclamation. Mr. Hooper, on behalf of the brethren, responded. Mr. J. C. Bain proposed a vote of thanks to Mr. Tait for his services at the several sessions of the Convention, seconded by Mr. Macauley, and passed. The meeting was then closed with the National Anthem. *Second Day.* After devotional exercises at 9 a. m., the roll was called. The Auditors' report was then read and approved. The secretary was telegraphed for in consequence of affliction in his family and Mr. P. McMaster was appointed secretary *pro. tem.* Much sympathy with Mr. Bain in his affliction was expressed by the president and members. Mr. Jones said that many of the teachers were anxious to obtain some educational periodical, and he thought as there was a substantial balance on the treasurer's hands they could not appropriate their subscription fee to a more worthy purpose. As the lady members were not hitherto required to pay a fee, he moved that the Constitution be amended to enable them to become paying members. Mr. McMaster seconded and it was passed. Mr. Jones then moved that each member be supplied with a copy of the CANADA SCHOOL JOURNAL or GAGE'S SCHOOL EXAMINER, to commence with the May number ; seconded by Mr. McMaster and carried unanimously. Dr. Christoe, Warden of Grey County, entered at this stage, and was received with all honour. A deputation to wait on the County Council was then appointed with the object of inducing them to renew the usual annual grant to the Association. Mr. Greg, of Owen Sound High School, apologized for the unavoidable absence of Mr. O'Connor, and then read an extremely practical paper on "How to secure Uniformity of Classification in the Schools of the County," for which, on the motion of Mr. Armstrong, seconded by Mr. Galbraith, he received the best thanks of the Association. Mr. N. W. Campbell brought forward some difficult sentences which were subjected to the combined grammatical knowledge of the members, and

led to useful discussion. In the afternoon the first subject introduced was the Superannuation Fund. The President read over the different clauses of the circular from the Legislative Council, which were thoroughly discussed by Messrs. Tait, Jones, Armstrong, Galbraith, McMaster, Irvine, Buchanan, Hall, etc. After a lengthy discussion it was moved by Mr. Jones, seconded by Mr. McMaster, that we instruct our delegate to the Provincial Convention (Mr. Galbraith), to condemn the scheme now before us, and vote against it.—Carried unanimously. Mr. Tait then gave a very interesting and instructive lecture on "Natural Philosophy," and explained his method of teaching it to a class. Moved by Mr. Armstrong, seconded by Mr. Galbraith, that this Association tender to Mr. Tait a hearty vote of thanks for his very instructive lecture. Carried. Mr. Morey then gave an exhibition of his method of teaching "Geography" to a class. He dealt principally with the map of North America. This brought the proceedings to a close, and it was felt by all that the present meeting was the most profitable and interesting ever held by the Association.

PRESCOTT.—The Convention of the Teachers of the County of Prescott was held at Vanleek Hill, on the 9th and 10th inst. Over one hundred Teachers and others interested in education were present. Quite an interest seemed to be taken in the proceedings and the utmost good will prevailed. The President, T. O. Steele, Esq., took the chair about 10 a.m., and after a short address, called for the election of officers for the present year, but on account of not many teachers being present at the opening, the election was deferred until the next day. Mr. Wm. Johnston explained his method of teaching Reduction, and in the absence of J. W. McCutcheon, Esq., Mr. Gray solved a few problems, which called forth remarks from the Misses Hardinge, Fairbairn, and Tillie Higginson, and from Messrs. Summerby, Bissett, Lefebvre and Page. Able essays on "How to Teach Geography" were read by Messrs. Kyle and Bissett. A lively discussion followed in which Messrs. Lefebvre, Summerby, A. Johnston, and Gray took part. Mr. T. Otway Page, B. A., delivered an able and eloquent address on Practical Chemistry, and then performed several chemical experiments, which for the most part were successful. He occupied altogether about two hours. In the evening Mr. J. M. Buchan, M. A., I. H. S., delivered a very instructive and interesting lecture in the Presbyterian Church, on "Poetry and Politics." Notwithstanding that the building was full, over three hundred being present, he secured the closest attention from the commencement to the close. *Second Day's Programme.* Mr. Duford, Assistant Inspector of Public Schools, gave an address in French, and was followed by Mr. Buchan, the subject of his remarks being "English Grammar." He gave the history of Grammar from the earliest to the present time, and explained how English Grammar should be taught, both as a science and as an art. At the close of his address he gave satisfactory answers to the several questions which were asked, in regard to this important subject. A vote of thanks was unanimously accorded to him at the close of each of his addresses. The election of officers then followed :—President, Mr. W. J. Summerby ; Vice-Presidents, Messrs. Houston, and Page ; Secretary-rreasurer, Mr. H. Gray ; Board of Audit, Messrs. J. Hayes, and Page ; Managing Committee—Messrs. Duford, Dault, Bissett, and the Misses Cheney and O'Callaghan, and the officers elect. In the afternoon Mr. J. W. Summerby, I. P. S., gave some practical suggestions on teaching the various subjects on the Public School Programme, Mr. Morphy explained his method of teaching Algebra to a junior class, and Mr. Gray explained how he would conduct recitations, in spelling, in the 1st, 2nd, 3rd and 4th classes. Resolutions were passed locating the library at L'Original, and appointing the Inspector as librarian, and another to the effect that the Association will supply Teachers, who pay the fee for membership, with an Educational Journal. The selection of the time and place of the next meeting of the Association was left to the Managing Committee. The Superannuation Fund was not discussed, several Teachers taking no interest in it whatever.

H. GRAY, *Secretary.*

REVIEWS.

THE MUSICAL TIMES for June contains an introductory history of Clement Marot, whose name is connected with the Huguenot Psalter; the continuation of sketches of Berlioz and Mr. Pepys, the musician ; a review of the lyrical drama, "Stella," and a dissertation on Old School Music *vs.* Modern, as practised in St. Paul's Cathedral. The topics are ably written and interesting. The music selected this month is a cradle song, "Peacefully Slumber, my own Darling Son," by Oliver King, set to a German translation by Dr. Dulcken, and is dedicated to his friend, J. W. F. Harrison, Ottawa, Canada. It is arranged for four voices, with pianoforte accompaniment, and is quite a charming lullaby, possessing some exquisite chords. The "Musical Times" is published monthly by Novello, Ewer & Co., London, Eng. Price 3d.

An ingenious school portfolio has been patented by C. J. Brown & Co., publishers, Randolph, New York. It comprises writing paper, movable head-lines, pen, blotter and pen-wiper in a paper folding case, on which are printed instructions in penmanship, class-signals, &c. Five books compose the series. The contrivance possesses much merit ; but a better system of caligraphy would enhance its value, as the one used is heavy and clumsy-looking.

A SECOND GERMAN BOOK. *By Jas. H. Worman, A. M., Prof. of Modern Languages in the Adelphi Academy, Brooklyn, N.Y. A. S. Barnes & Co., New York & Chicago. Boards, pp. 84.*

This work is arranged on the Pestalozzian method. The lessons are well selected, the words being readily comprehensible by pupils of the second class, and the subject matter made up of very interesting extracts. The print is large, and stands out very clear on richly toned paper. Several of the exercises are in Roman type. This is a step in the right direction, and should be more observed by American publishers, for the majority of educational works in Germany are being issued in this style of letter. The illustrations are numerous, and are well executed.

THE SOURCES AND GROWTH OF THE ENGLISH LANGUAGE. *By Thos. Paige. London: Moffatt & Paige. Price 9d., pages 72.*

This is another of the Primer Series. The first 14 pages contain a concise account of the languages whence the English language is derived, with suitable examples of each. Pages 16 to 49 are taken up with *prefixes, affixes* and *root words*, carefully selected from the Saxon, the Romance, the Latin and the Greek. From page 50 to 62 is a brief yet clear account of the leading authors in English Literature, and of their principal writings, with quotations. The remaining portion of the work consists of questions for examinations, with illustrative answers to the more prominent. On the whole, this primer will be very useful in laying a foundation in junior classes that may be built on in the more advanced. One of the defects of our system, *i. e.*, the want of knowledge concerning our own authors, may be removed by a careful study of this treatise.

THE MOST PLEASANT COMPANIONS to take along for the holidays are *Scribner's* and *Harper's Magazines.*

CHAMBERS' GEOGRAPHICAL READERS. *Edited by Professor Meiklejohn.* There are few books which would interest a boy or girl ten years of age so much as one of these volumes. They give geographical information in a most attractive style. They contain no abstract definitions ; they do not discuss names or statistics, but lead to a knowledge of men and places as they actually exist. They are excellent in method, matter and illustrations. For geographical object lessons teachers should buy one.

DYSPEPSIA AND HOW TO AVOID IT. *Philadelphia: Presley Blakiston.* This publisher deserves the thanks of the public for the remarkably interesting and valuable series of works on hygiene which he has recently issued. They are all written in a popular style, and convey information of great value to every reader. They are cheap, and can scarcely fail to save their cost many times over in any family, if the directions given in them are followed. The little book now before us discusses the subject of its title under four heads : Food, Digestion, How to cook food, and How and what we ought to eat.

HARPER'S YOUNG PEOPLE contains all that is desirable for the entertainment and instruction of the class it is intended for. There is a great variety of interesting matter calculated to arrest the attention and excite the interest of the little ones, but totally unlike the dime-novel literature of the day. By its perusal, wholesome impressions are made on the child's mind, which are sure to lead to an improved moral and intellectual taste. The publication is one of the best of its kind in America.

POPULAR SCIENCE MONTHLY, *July New York: D. Appleton & Co.* The articles in this valuable monthly are all instructive. Teachers will always get in them many facts and illustrations which will greatly add to the interest of the school-room. We print in this number of the JOURNAL one article from this monthly: "How to Prevent Drowning." Of the other articles the most interesting are "Races of Mankind;" "European Schools of Forestry ;" "Production of Sound by Radiant Energy," by A. Graham Bell ; "Political Institutions," by Herbert Spencer; "Improvements in Electric Lighting," and "The Phenomena of Death."

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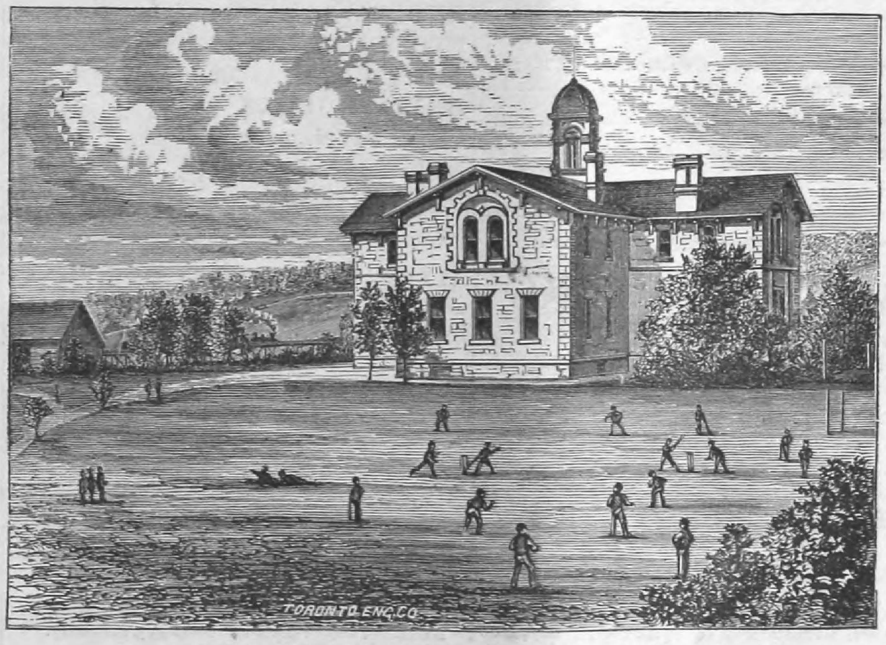

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The Canada School Journal.

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ROBERT ALEXANDER,

PRESIDENT, ONTARIO TEACHERS' ASSOCIATION.

Mr. Robert Alexander, Principal of the Public Schools of Galt, Ontario, and President of the Ontario Association for the Advancement of Education, whose portrait we are able to present to our readers this month, was born in Glasgow on the last day of 1833; and, with his father's family, he settled in this country in 1848. Part of his early education and part, too, of his educational enthusiasm he received from Prof. McVicar, late of Potsdam Normal School, N. Y. Having, by a born instinct, chosen teaching as his profession, he entered the Toronto Normal School in 1854, and again, after six months' teaching, in 1855. He completed his creditable course there by retiring next spring with a First-class Provincial Certificate. To his diligence and success, both as a student and a teacher, T. J. Robertson and A. McCallum, head masters of the Normal and Model Schools respectively, bore unequivocal and unstinted testimony; and, had not Mr. Alexander's trustees in the township of York that year found out his value as a teacher and held him to his conscientious engagement, he would have filled an offered place on the Model School staff before its close.

Of his career as a public school teacher we can only speak briefly. When, on his own motion and will, Mr. Alexander left St. Thomas for the Normal School, York for Milton, and Milton for Newmarket, the respect, attachment and confidence of the entire communities where he had laboured, though for only limited periods, found expression in resolutions and testimonials, which must have proved highly gratifying, as time has proved them to have been justly deserved.

His course at Newmarket, by no means at first an easy one, alone entitles Mr. Alexander to the position he holds in Ontario as a teacher of the first class. Carefully studying and quickly grasping the situation, he formed his plan, wisely, as the sequel proved, to make the Central School second to none in a place in circumstances similar to those of Newmarket. With the patience begotten of the conscious justice, wisdom and benevolence of that plan, he set himself to work; and with the persistence of his race and the skill of training and experience, his hands grew strong and his difficulties grew weak, till his authority became as unquestioned as it was benign. We believe his road to the supremacy he wielded for fifteen years was opened, not through weakkneed schemes for pleasing, but feeling that obedience was wholesome sweet and to children, he required obedience. Believing that real work brings real enjoyment, he required real work in reasonable and regular measure. Believing that sympathy and co-operation are the compound key to young hearts and old, he gave and secured both in sincerity and fulness. In sympathy also with all that helped and elevated character and happiness, his position in the place received, at the end of ten years' service, the very tangible recognition of an elegant gold watch and chain. During the sixteenth and seventeenth years of his stay in Newmarket he filled, with equal efficiency, the position of assistant in the High School, and when chosen to fill the more honourable, more responsible, and more lucrative position of Principal in Galt, nearly seven years ago, he left, universally esteemed and regretted.

In Galt Mr. Alexander has laboured assiduously and successfully in all departments of his work. Chiefly, however, will his reputation there be linked with the inauguration of a system unique, so far as we know, but destined to solve a formidable and difficult educational problem in Canada —The Galt Half-time System. Under this, children under nine are confined to the school-room and to close work for only half of each half-day, and during the other half are under the care of a skilful teacher who, in the school-yard, play-hall or singing-gallery, leads them in developing the physical and mental powers in a natural and attractive manner by teaching calisthenics, object lessons, music, games, &c., after the kindergarten methods. We must, however, reserve further information on this subject for some future occasion.

Whilst his honourable career as a public school teacher en-

titles Mr. Alexander to the notice our portrait gives him, it is more particularly due to his efforts in promoting the Association of the Teaching Profession of Ontario, under regular organization for self-improvement and the advancement of educational interests, that we delight to do him honour.

While heartily working in such an organization in North York, and foremost in bearing its burdens, he was eminently *the* Pioneer of the Provincial Association which, after twenty years of ever widening influence and broadening views, has, at two successive conventions, set him in the President's chair.

The efforts of teachers working alone, without recognition, sympathy, or help from fellow teachers, are but like random shots of advanced guards as compared with the well directed volleys of a united and trained army. The collating of experiences, the defining of duties and privileges, the broadening of views and the division of labour, which the association of any craft can promote, set the members of that association on vantage ground far above the scattered, isolated workers, however well qualified otherwise.

In his faithful labours, his anxious devices, his unflagging zeal for the success of his work and of his profession, by his reading, his intercourse with fellow workers, Mr. Alexander realized the hiatus and at once set to work with indomitable will to bridge the chasm. Assisted in North York by veterans such as Geo. Rose and R. W. Doan, and out of it by such men as the late A. McCallum and W. Watson, the preliminary meeting was held in Toronto, in January, 1861, at which the Teachers' Association of Canada West, was formed. Of the hard labour and discouragements to be encountered at the inauguration of so imperfectly appreciated an organization, no one who has not had the experience can form an adequate idea. For years the up-hill struggle was severe enough, but the men for the occasion were on hand; and, inspired by the good judgment, prudence, courage, and perseverance of Mr. Alexander, the result was hardly doubtful, even during the trying years of the Association's infancy and tutelage. Now that it has reached its majority, all its friends, especially Mr. Alexander, may be congratulated on its robust, well-developed manhood. That it has accomplished much for teachers, and much in the interests of liberal education for the country, no one half acquainted with its past history can for a moment question; even at its inception it gave evidence of latent powers of a high order, and fully have the hopes awakened been realized. At the first convention, a resolution was passed inviting the attention of the Chief Superintendent of Education to the advantages of intervisitation among teachers, and to the necessity of a central committee of examiners, who should grant certificates of equal duration and value as those given by him to Normal trained teachers. In 1864, a resolution complaining of the evils arising from irregularities connected with the working of County Boards of Examiners, and suggesting their abolition, was carried.

But we cannot further enter into details. Suffice it to say that the history of this Association, now composed of the Public School Teachers, the High School Teachers, and the Inspectors of the Province, runs parallel to, but in advance of the leading reforms and adaptations of the educational system of Ontario during the past twenty years. It has suggested and vigorously advocated liberal measures, measures often in advance of public opinion, but frequently adopted even sooner than their advocates hoped. It holds a position of influence in the country alike gratifying and surprising, considering the time it has been in existence; so that it commands both respect and admiration through its success and usefulness. Long may Mr. Alexander live to share in the satisfaction its gratifying career begets, as to him very largely this career is due.

—The *Daily Ontario* says :—"The CANADA SCHOOL JOURNAL for June is an excellent number of this most excellent publication. The JOURNAL must be a necessity among teachers. It contains a great deal of information that would interest and instruct the general reader."

SCHOOL SAVINGS' BANKS.

—We have already referred to the fact that in Germany, France, Belgium, and other foreign countries, a systematized arrangement had been made to encourage habits of thrift in the schools, and that the plan had produced good effects in promoting domestic frugality and national financial prudence. The subject has now been made practical in the English schools, and considered of such importance as to cause action to be taken thereon by the Education Department, who have issued a circular of instructions dated July 1st 1881, addressed to school managers and teachers, in which the Lords Commissioners commence by stating :—

"The attention of my lords has been directed to the importance of thrift, and to the exceptional facilities possessed by elementary schools for the encouragement of this practice in early life.

"Experience has shown that many of the evils which weigh most seriously on the industrial classes in this country are the results of improvidence and waste. But some of these evils admit, at least, of partial remedy. To learn how to economise slender resources, how to resist temptation to needless expense, and how to make reasonable provision for future contingencies, is an important part of education. Such knowledge is calculated to protect its possessor from much trouble and humiliation, and to help him greatly in leading an honourable and independent life.

"In mature years, it is often found difficult to acquire this knowledge, and still more difficult to apply it in practice. But in a school much may be done to render its acquisition easy to children, and to show to them the advantages of economy and foresight. Simple lessons on money, on the conditions which affect the rate of wages, on the relations of skill, prudence and knowledge to industrial success, and on right ways of spending and saving, may be made very intelligible and interesting to the young. Economy, however, is a habit; and is to be learned, like other habits, rather by practising it than by listening to demonstrations of its importance. During the school life of a child there arise many temptations to the heedless and wasteful expenditure of small sums; and many occasions on which, if the opportunity were offered, such sums might be usefully and wisely saved. The child who is helped to deny himself some trifling present gratification, who is encouraged to save by degrees a few shillings, and who finds this sum available for the purchase of necessaries, for helping his parents at a time of family misfortune, or ultimately for his own equipment on leaving school for work, has received a practical lesson in forethought and self-restraint which will probably abide with him for life.

"The value of such a lesson is not to be measured solely by its effect on the scholar's own character and welfare. The possession of even a small reserve, or capital, places it in the power of the workman gradually to acquire the ownership of his house or a piece of land, to take a share in an industrial partnership, or to enter on a small business, which, although at the outset it may only employ himself and his family, may, by his economy, industry and skill, become the means of employment to many others, and so contribute

to the general prosperity. Thrift and temperance are very nearly allied; each is helpful to the other; and, having regard to the enormous national waste caused by intemperance, there can be little doubt that if the people of these islands were more temperate and thrifty, our home trade, and the profitable employment of our people therein, would be very greatly increased.

"The well-known thrift of the peasantry and artisans of France has had a large influence in developing the commerce and manufactures of that country, and has also enabled her people to recover, with extraordinary rapidity, from the effects of a great national calamity."

It is thus considered with all the importance of a national matter, and justly so, because the training of the nation is carried on in the schools of the country, and on the effects of the education imparted therein, whether of mind or of habit, will depend the future tone and character of the people who compose the nation.

It may be asked how do the scholars obtain money in sufficient quantity to make it worth while to establish a School Savings' Bank. One source is mentioned in the circular:—

"In some schools, in which it has been the practice to give small money premiums for special proficiency, industry, or good conduct, these prizes have taken the form of a deposit in the savings bank in the scholar's name, so that, on leaving school, he has been presented with a bank book, and a substantial nucleus for future saving. In Art. 19 E. of the Code there is a special provision for the payment of a sum of 40s., or 60s., to the managers of a school in respect of each pupil-teacher who, at the annual examination, passes fairly or well. There is a further direction that this sum shall be divided, in such proportions as the managers may determine, between the pupil-teacher and the master or mistress by whom he has been trained. The sum thus assigned to the pupil-teacher may often, with great advantage, be placed in the savings bank, and reserved until the completion of his apprenticeship, to meet the expenses necessarily attendant on his admission into a training college."

As another source, it is well known that children are frequently supplied with coins by their friends and relatives, which are disposed of too frequently in objectionable ways. Dime novels, chewing-gum, toy pistols and gunpowder, fireworks, crude fruit, cheap candies, *et hoc genus omne*, are the pernicious wares that attract the juveniles of this country; and it is most likely the children of Great Britain are possessed of similar degenerate proclivities.

To our mind the most important idea is that children may be early taught and trained to assist their parents with these savings, and thus be inculcated with one of the noblest motives that could be implanted in the breast of a child. In cases where parents do not need this help, the money might be used to fit out the youth on entering into business, assist a young bride in adding comforts to her home, or be generally available for the proverbial "rainy day."

Now comes the practical part of the arrangement:—

"My Lords have no wish to interfere with any existing plans which are found to work well; but they desire to direct the special attention of school managers and teachers to the facilities which are now offered by the Post Office for the establishment of penny banks in schools. Such banks, when formed, may readily be placed in connection with the local post office savings bank, and persons proposing to establish them should apply to the controller of the Post Office savings bank department, General Post Office, London, when all needful information will at once be given. Small books for the use of the children have been prepared, and are issued gratuitously by the *savings bank department*, and the necessary rules, which are few and simple, will be found printed in each of these books. Suitable ledgers for keeping the accounts of the school bank in a simple form can also be obtained at a small price. Deposits of small sums should be entered in the scholar's book and in the school ledger, and as soon as the sum paid by any depositor reaches a sufficient amount, he should be assisted to open a separate account in his own name in the post office savings bank, and he will thus be able, if he wish it, to make his subsequent payments direct to the post office. As, however, no deposit of less than 1s. is received at the post office bank, he may continue to pay into the school bank as before."

It may be thought that the teacher has quite sufficient to attend to in the performance of his scholastic duties, without being hampered with banking work of such a petty nature. True, and "my lords" think so too, for they offer as a suggestion, that

"Two or three managers or friends of a school may act as trustees of the school bank, and may open an account with the nearest post office savings bank. It should be arranged that, on one or two mornings in the week, one of the number should be present to receive deposits, and to conduct the simple business connected with the withdrawal of money or its transfer to the post office bank."

The teacher's countenance, aid and good will are, however, relied on, and we are sure that every teacher who is not a mere "knowledge machine," and who is possessed of the requisite amount of "the milk of human kindness," which teachers, of all others, should possess, will lend their assistance in carrying into effect a project calculated, as this is, to have such a beneficial influence on social science.

—There has been a good deal of discussion on Mr. Blake's speech at the recent Convention of the University of Toronto. The *Mail* charges Mr. Blake with deliberately belittling the denominational colleges, and virtually insulting the denominations; the *Globe* indignantly repels the imputation, affirming that only the ingenuity of political malice could put such an interpretation on his remarks; while the *Christian Guardian*, disclaiming all political bias, declares that some of his remarks may fairly be considered as calculated to injure the denominational colleges in the estimation of those who are not familiar with the quality and quantity of the work actually done in these institutions. It seems to us that the *Mail*, in its eagerness to make capital against an eminent political opponent, has made most of certain inadvertent expressions, and misrepresented Mr. Blake's real attitude towards the denominational colleges. No one who knows anything of Mr. Blake's high sense of justice and thoroughly liberal sentiments, will, for a moment, accuse him of hostility to these institutions. But besides this, Mr. Blake is not an imbecile—he, the leader of a great party, whose aim is to lead that party to a brilliant victory, would hardly pursue the infatuated course of insulting the great Methodist and Presbyterian bodies by an unjust and groundless attack on their cherished institutions. On the other hand we can hardly agree with the *Globe* that none of Mr. Blake's remarks could be fairly thought objectionable by friends of the denominational colleges. We rather agree with the *Guardian*; and, while acquitting Mr. Blake of any intention to belittle the denominational colleges, venture to say that some of his expressions were at once extremely infelicitous and calculated to produce erroneous impressions on the minds of those not conversant with the facts. His statement, for example, that "Victoria College, at Cobourg, would naturally take up a very considerable portion of the youth of that town," is certainly open to criticism.

We may reasonably say of the High school at Cobourg that "it would naturally take up a very considerable portion of the youth of the town," in its work of preparing students for the University. But what does the remark mean when applied to a university that is doing a noble work in higher education and whose students are drawn from every quarter of Ontario, not to say of the Dominion? Mr. Blake says he wished merely to account for the fact that as compared with the western portion of Ontario, the eastern supplied the University of Toronto with comparatively few students. Then the inference plainly is that if "Victoria College at Cobourg" did *not* "take up a very considerable portion of the youth of the town," there would be a much larger attendance of students from the east at the Provincial University. But how a town of 5,000 inhabitants could so materially affect the attendance of the University, the "deponent sayeth not." The assumption speaks volumes for Cobourg; but not much for the rest of eastern Ontario. The fact is that, as a contemporary remarks, Mr. Blake's speech was hardly worthy of his acknowledged ability. He spoke, it would seem, on a subject on which he was not thoroughly conversant; a "brief," we suppose, was put into his hands and he did his best with it. Under the circumstances it was, perhaps, hardly fair that all his little slips of tongue should be

> "Observ'd,
> Set in a note-book, learned and conn'd by rote,
> To cast into his teeth."

—At the recent examination for matriculation in the University of Toronto there were no less than 141 candidates for honours in the various departments. There were 11 candidates for honours in classics only; 26 for honours in mathematics only, and 38 for honours in "moderns." There were 9 candidates for honours in classics and mathematics; 6 for honours in classics and "moderns," and 24 for honours in mathematics and "moderns." There were no fewer than 27 for honours in the *three* departments, classics, mathematics and "moderns." It will be observed that of the 141 candidates for honours, 86 wrote for honours in mathematics, and that of these 86, 33 were candidates for honours in *one* additional department, and 27 were candidates for honours in *two* additional departments. It thus appears that of the 86 candidates for honours in mathematics, *sixty* had prepared the honour-work in at least one additional department. It would seem to be a fair inference from these figures that, notwithstanding the allegations of certain fault-finders, the students of the High School are not over-weighted with a disproportionate amount of mathematics. If it be true, as some have alleged, that the greater part of the student's school life is devoted to the study of mathematics, he plainly must make excellent use of the remaining and smaller part. It is not improbable that the logical discipline resulting from the study of this subject enables the student to master, with greater facility, the honour-work prescribed in any other department.

—In Mr. Blake's now famous convocation speech he expressed a fear that there was a tendency to give mathematics an undue prominence in the high schools of the country. This fear arose, it appears, from the alarming fact that, according to the Report of the Minister of Education, there are "nearly 100 per cent, of the pupils in these schools studying mathematics, while not more than 50 or 60 per cent. are learning classics." But perhaps Mr. Blake' feeling of regret will be greatly toned down when he learns that every pupil learning arithmetic is classed among those studying "mathematics." We should like Mr. Blake to explain his argument in this connection. Does he regret that so many pupils are learning arithmetic in comparison with the number in Greek and Latin? Would he reverse the order of things, and have 100 per cent. in classics and only 50 or 60 per cent. in arithmetic? In fact this statement and inference afford another example of the fact that Mr. Blake had not thoroughly mastered his brief. He seems to have been furnished with certain conclusions, and left to search for the necessary premises. It must be confessed that he has not been very successful in his search.

—"A little knowledge is a dangerous thing." The *Montreal Daily Star* says that it is not generally known that a dangerous gas is evolved from ice. We admit our ignorance.

—"In the higher classes of our public schools it is thought necessary that a lad who is destined to be a mechanic should be drilled in Latin and Euclid."—*The Toronto Mail, July 22.*

Will *The Mail* have the goodness to substantiate this statement?

—"Ohio is going to have a Medical Commission appointed to enquire into the conditions under which scholars in public schools work. The two points most insisted on by those urging an investigation are the alarming increase of myopia, or defective sight, and the impaired nervous condition of the pupils who have passed through all the stages of public school education. These troubles are not confined to Ohio, but prevail in Ontario. One of the reasons is the attempt to teach too many subjects."—*The Mail, July 22.*

Far more important in this connection than the number of studies is the number of school hours. In nearly every town in the Northern States and Canada hosts of little children are compelled to sit still for five or six hours every school day in a vitiated atmosphere. During the very period of their lives when they should be placed in conditions favourable to the development of healthy bodies they are subjected to the reverse. The evil is not so seriously felt in the country parts, because there the attendance is less regular, and abundant fresh air and exercise counteract the ill effects of long school hours. But we have need of a medical commission to open the eyes of our urban population to the injury that is unintentionally being done in their midst.

—Mr. Sylvanus Phillips, B.A., who for the past two years has filled with integrity, efficiency and zeal, the Mathematical Mastership of Whitby Collegiate Institute, has been appointed to the more onerous and responsible position of Head Master of Elora High School. We sincerely wish him every success and prosperity in his new sphere. Previous to his departure the pupils of the Institute presented him with a handsome and valuable silver ice-pitcher, accompanied with an address, in which the kindliest feelings and best wishes were expressed.

—The annual meeting in connection with the Tonic Sol-Fa College, was held on the 30th May, at Exeter Hall; Sir H. Cole, K.C.B., in the chair. From the report which was submitted by the Secretary, it appears that the College, which has been incorporated six years, is now nearly self-sustaining. During the past year 10,936 certificates have been granted, and it is computed that in the winter months 200,000 pupils receive instruction in the Tonic Sol-Fa method. The chairman, in addressing the meeting, said that the Tonic Sol-Fa system was by far the best method for introducing music into the United Kingdom, and he prophesied that it would be used universally in the schools of the country, and that its introduction would be the first step in the national cultivation of music.

—The Corporation of Trinity College, Toronto, appointed a commission to select a provost to succeed the late Rev. G. Whitaker. The field in the Dominion was too limited apparently, and the commission proceeded to the mother-country, where they succeeded in engaging the Rev. C. Body, M.A., a Cambridge man, member of St. John's College, sixth wrangler, Bell's Scholar, and Tyrwhit Hebrew Scholar. Mr. Body's personal qualities are highly spoken of.

—In Galt Collegiate Institute, Mr. Bryant the Principal, takes the mathematical subjects; Mr. Thomas Carscadden, M.A., gold medallist of Toronto University, late Head Master of Richmond Hill High School, and formerly Principal of the Wesleyan Academy, Charlottetown, P. E. I., has been appointed English master. To the classical mastership has been appointed Mr. D. Sieveright Smith, M.A., late Classical Lecturer in Bishops' College, Lennoxville, and formerly of Aberdeen Academy. Mr. Noah Quance, B.A., Scholar and Honour man of the University of Toronto, has been appointed to the Modern Language Mastership. The Institute will now admit girls; they formerly having been excluded.

—Mr. C. A. Barnes, P. S. Inspector of East Lambton, after having passed a very successful examination at Albert University, Belleville, has had the B.A. degree conferred on him. Mr. Barnes has a large inspectoral district to attend to, in which his labours have invariably met with approval; and it tells well for his indefatigable energy, that he has found time to read up for a trying examination, and to pass with honour and credit.

The bulk of the world's writing is done with steel pens. Easterbrooks can be procured from any stationer, and at wholesale from Brown Bros., Toronto.

ONTARIO TEACHERS' ASSOCIATION.

The twenty-first Annual Convention for the Advancement of Education will be held in the Public Hall of the Education Department, Toronto, August 9th, 10th and 11th, 1881.

PROGRAMME.

Tuesday, 9th.

10.45 a.m.—Treasurer's report and general business.

2 p.m.—Report of Committees.

3.30 p.m.—Agricultural Education in Schools. James Mills, M.A., Principal, Agricultural College, Guelph.

8 p.m.—President's Address. Mr. R. Alexander, Galt.

Wednesday, 10th.

2 p.m.—Industrial Drawing as taught in the Public Schools, Toronto, with an exhibition of drawings made therein. Mr. James L. Hughes, I.P.S., Toronto.

4 p.m.—Physical Education. Mr. A. H. Morrison, Galt.

8 p.m.—The Morbid Results of Physical Overwork. Dr. Joseph Workman, Toronto.

Thursday, 11th.

2 p.m.—Election of Officers.

2.30 p.m.—Religious Education in the Public Schools. Daniel Wilson, LL.D., President, University College.

3.30 p.m.—Uniformity of Text-Books. Mr. S. S. Herner, Strasburg.

8 p.m.—The Relation of the Will to the Intellect in Education. S. P. Robins, LL.D., Montreal.

The sections will meet during the forenoon of each day.

Public School Section.

Over Supply of Teachers. Mr. S. McAllister, Toronto.

Representation at the Provincial Association. Mr. Robert McQueen, Kirkwall.

Model Schools and Model School Work. Mr. James Duncan, Windsor.

Entrance work to High Schools.

High School Section.

First Day.—Discussion of the Report of the Executive Committee on Mr. Crooks' memorandum.

Second Day.—Discussion of the Report of the Committee relative to Collegiate Institutes and High Schools.

Public School Inspectors' Section.

First Day.—How to make Teachers' Associations effective.

Second Day.—A day's work in a Public School.

Extension and endorsation of certificates.

Third Day.—How can we best help teachers in their schools?

ROBERT ALEXANDER, *President.* ROBERT W. DOAN, *Secretary.*

Examination Questions.

INTERMEDIATE EXAMINATIONS, JULY, 1881.

ARITHMETIC.

TIME—THREE HOURS.

Examiner.—J. C. GLASHAN.

1. Find the L.C.M. of 545, 26487, 1853, 11421.

One kind of brick is $4\frac{1}{2}$ inches long, and $2\frac{3}{4}$ high; another 5 inches long and $3\frac{1}{2}$ high. What is the size of the least piece of wall, height being same as length, that can be constructed of either kind of brick?

2. Define the numerator and denominator of a fraction, and from your definitions *prove* that

$$\tfrac{2}{3}\times 5=\tfrac{10}{3},\ \tfrac{2}{3}\times\tfrac{5}{7}=\tfrac{10}{21}.$$

3. Simplify $\left\{\dfrac{\frac{2}{15}\text{ of }11\frac{1}{4}+\frac{2}{17}\text{ of }7\frac{2}{7}}{33\frac{1}{8}-6\frac{1}{8}}+8\frac{7}{16}\right\}\div\left\{\dfrac{\frac{1}{2}\text{ of }6\frac{3}{4}-2\frac{1}{8}}{25+\frac{1}{7}\text{ of }3\frac{1}{8}}\right\}$

Add together $\frac{3}{7}$ of 1 wk. 2 dys. 17 hrs., $\frac{4}{5}$ of 17 hrs. 23 min. 26 secs., and $\frac{4}{7}$ of 2 days.

(Accuracy of result essential in preceding fractions.)

4. Describe briefly the metric system of measures.

If a gallon contain 277 cub. in., and a dekalitre contain 17·6077 pints, express a metre in inches.

5. If A walk 7 hours a day, and B 6 hours a day, and if, under like conditions, B can walk 6 miles while A is walking 5, how many

days will A be walking down hill a distance which B accomplished up hill in 3 days; supposing that a man's rate of walking is increased by one-third in going down hill, and decreased by one-fourth in going up.

6. If 1000 men can excavate a square basin whose side is 1600 yds., and which is 30 yds. deep, in 9 months, how many will be required to excavate a square basin whose side is 2000 yds., and which is 40 yds. deep, in twelve months?

7. The hands of a clock move irregularly, the hour hand moving 5 per cent. too fast, and the minute hand 10 per cent. too slow. In 15′ (true time) they will be together; how many minutes, measured on the face of the clock, are they apart now?

8. A money lender has $1500 out at 8 per cent., $1200 at $7\frac{1}{2}$, and $1000 at 6; find the percentage he receives on the average.

9. A mortgage for $1000, paying 7 per cent. per annum, payable yearly, has two years to run; what should a loan society give for the mortgage that it may receive 8 per cent. on its investment, it being assumed that all moneys received by the society can be lent out at 8 per cent.?

Values—1, 5+9; 2, 2+6+6; 3, 6+6; 4, 6+8; 5, 10; 6, 7; 7, 10; 8, 7; 9, 12.

ALGEBRA.

TIME—TWO HOURS AND A HALF.

Examiner—ALFRED BAKER, M.A.

1. Factor x^3+y^3; and $x^3+y^3+z^3-3xyz$.
Utilize your results to show that
(1) $(x+z)^3+(y-z)^3-(x+y)(x-y+2z)^2$
$=(x+y)(yz-zx+xy-z^2)$.
(2) $(a^2-bc)^3+(b^2-ca)^3+(c^2-ab)^3-3(a^2-bc)(b^2-ca)(c^2-ab)$
$=(a^3+b^3+c^3-3abc)^2$.

2. If $a^2-bc=b^2-ca$, and a be not equal to b, then $a(b^2+bc+c^2)+b(c^2+ca+a^2)+c(a^2+ab+b^2)=0$.

3. Show how to find the L.C.M. of two Algebraic expressions.
Find the conditions that x^3+ax^2+b and x^3+cx+d may have a L.C.M. of the form $x^4+px^3+qx^2+rx+s$.

4. Simplify $\dfrac{(x+y)z^3}{(y-z)(z-x)}+\dfrac{(y+z)x^3}{(z-x)(x-y)}+\dfrac{(z+x)y^3}{(x-y)(y-z)}$.

5. Extract the square root of
(1) $2\left(1-\dfrac{b^2+c^2-a^2}{2bc}\right)\left(1-\dfrac{c^2+a^2-b^2}{2ca}\right)\left(1-\dfrac{a^2+b^2-c^2}{2ab}\right)$.
(2) $x^4+x^3+\frac{29}{4}x^2+\frac{7}{2}x+\frac{49}{4}$.

6. Find the value of x in
$$(x+a)(b-c)+(x+b)(c-a)+(x+c)(a-b)=0.$$
Explain result.

7. Find an expression for k in terms of a, b, c, that will make
$$\frac{b^2-c^2}{k-a}+\frac{c^2-a^2}{k-b}+\frac{a^2-b^2}{k-c},\text{ vanish.}$$

8. If for every $3.00 of income A has, B has $2.00; for every $12.00 A spends, B spends $1.00; and for every $4.00 A saves, B saves $5.00; find the proportion of his income that A saves.

9. Solve the equations
(1) $\dfrac{x+1}{5}+x(x-1)=(x-1)^2$.
(2) $\dfrac{1}{x-a}-\dfrac{1}{x-2a}=\dfrac{1}{x-3a}-\dfrac{1}{x-4a}$.
(3) $\dfrac{2x^3+2x^2+3x+1}{x^2+x+1}=\dfrac{x^2-x+1}{x-1}+\dfrac{x^4-x+1}{x^3-1}$.
(4) $\left.\begin{array}{l}x^2+xy+y=25\\x+xy+y^2=31\end{array}\right\}$.

Values—1, 1+3+4+7; 2, 6; 3, 6+8; 4, 6; 5, 5+4; 6, 7; 7, 7; 8, 7; 9, 4+7+8+10.

EUCLID.

TIME—TWO HOURS AND A HALF.

Examiner—ALFRED BAKER, M. A.

(All intelligible abbreviations permitted).

1. Show clearly that in Book I. Euclid proves that if the three sides of a triangle be given, or two sides and the contained angle, then the triangle is determinate. (The proofs of the propositions in which this is made out are not required.)

Is there any other case in which Euclid shows that if certain parts be given the triangle is determinate?

2. If two parallel lines be also equal, the lines joining their ends are either parallel and equal or else they bisect one another,

State converses of these propositions, and prove one of such converses.

3. If a parallelogram be on the same base with a triangle, and both have the same altitude, the former is double the latter.

4. Show that the square on the hypothenuse of a right-angled triangle is equal to the sum of the squares on the sides.

5. ABCD is a quadrilateral having AD parallel to BC; show that if E be the bisection of AB, the triangle ECD is half the quadrilateral.

Show also that if F be the bisection of AD, and FBC be half the quadrilateral, then the quadrilateral is a parallelogram.

6. ABCD is a quadrilateral having the sides DA, DC respectively greater than BA, BC; prove that if BA, CD meet, when produced, toward A and D, then will DA, CB meet, when produced, towards A and B.

7. Show how to divide a straight line into two parts such that the rectangle contained by the whole line and one part may be equal to the square on the other part.

Show how to produce AB to C, so that the rectangle contained by AC, CB may be equal to the square on AB.

8. Construct a square equal to a given rectangle.

Values.—1, 8+3; 2, 5+5+3+3+6; 3, 6; 4, 9; 5, 9+9; 6, 9; 7, 10+7; 8, 8.

CHEMISTRY.

TIME—ONE HOUR AND A HALF.

Examiner—E. HAANEL, Ph. Dr.

1. $KNO_3+H_2SO_4=HNO_3+KHSO_4$.

(*i.*) Give, first, the names of the compounds entering into the reaction represented by above equation, and, second, the names of the elements, with their combining weights, entering into the constitution of these compounds.

(*ii.*) Represent, by diagram, the necessary apparatus for conducting the experiment indicated by the equation.

(*iii.*) What effect would H_2SO_4, HNO_3 and KNO_3, each have upon a solution of blue litmus?

2. It is required to make $3\frac{1}{2}$ pounds of HNO_3 by experiment 1. (*ii.*) How much H_2SO_4 is required?

3. Explain the principle of Davy's safety lamp.

4. It is required to prepare the elements hydrogen and nitrogen for class purposes:

(*i.*) Describe the apparatus and name the substances needed for the preparation of each of the elements.

(*ii.*) Write out the equations representing the reactions occurring in their elimination.

(*iii.*) Describe the experiments you would perform to demonstrate their distinguishing properties.

5. Assign reasons for assuming that charcoal, graphite and diamond are different modifications of the same element.

6. Complete the following equations:
$Ca\,CO_3+2(HCl)=$
$Na+H_2O=$
$2(NaCl)+2(H_2SO_4)+MnO_2=$
$P_2O_5+3(H_2O)=$

7. Coal gas and phosphorus burn with a luminous sulphur and hydrogen with a non-luminous flame. Account for this difference.

8. A certain quantity of zinc furnished, when treated with sulphuric acid, $3\frac{3}{4}$ pounds of zinc sulphate. How much zinc was employed? Zn=65.

Values—1, 4+8+10+6; 2, 12; 3, 8; 4, 8+5+7; 5, 10; 6, 2+2+4+2; 7, 10; 8, 12.

NATURAL PHILOSOPHY.

TIME—TWO HOURS AND A HALF.

Examiner—J. C. GLASHAN.

1. Define *Force*, *Weight*, *Mass*.
How are they respectively measured?

Is the weight of a body the same at all points of the earth's surface? How can any difference be detected?

2. Enunciate the Parallelogram of Forces.

Show that as the angle between the forces is increased the resultant is diminished. If each force be increased by a force of the same magnitude, how will the direction of the resultant be affected; and how if the forces be increased in the same ratio.

3. A weight of 100 lbs. is carried on a square board, supposed without weight, by four men, one at each corner. Construct for the position of the weight that they may support respectively 10, 20, 30, 40 lbs.

4. The arms of a balance are *a* and *b* inches in length respectively. What fractional part of his goods would a dealer gain or lose, who, in selling 10 lbs., for example, balances the 5 lb. weight first in one pan and then in the other?

5. AB is an inclined plane, AC horizontal, BC vertical, and the angle BAC is 30°. A weight of 12 lbs. is kept at the middle point of AB by a string passing through the plane and attached to C; find the tension of the string and the reaction of the plane. To what points in AC could the string, supposed tense, be fastened so that equilibrium would be possible?

6. A triangle ABC, whose angles are 30°, 60° and 90°, rests with its hypotenuse AB horizontal, and on the sides CA, CB weights support each other by being attached to a string that passes over C. Find the ratio of the weights. If, the triangle remaining in the same position, the string be horizontal, what is the ratio of the weights?

7. A cylindrical vessel is partly filled with water; examine accurately the cause and nature of the changes in the pressures on the sides and bottom of the vessel and on the table supporting the vessel, owing to a piece of wood being placed in the water.

If a vacuum were in some way created within the fluid, owing to which it rose in the containing vessel, would any change take place in the pressure on the table?

8. What changes would take place in the mercurial column of a barometer, if within a diving bell, as the bell rose or sank? What if in the upper part of a pump, as the water rose in the pipe below? Explain.

9. In the common pump find the resultant pressure on a piston 6 inches in diameter, the water in the pipe below standing 12 feet above the surface of the water in the cistern, and the pressure of the air being 15 lbs. to the square inch. A cubic foot of water weighs 1,000 ounces.

Values.—1, 3+6+4; 2, 4+4+4+3; 3, 13; 4, 13; 5, 16; 6, 16; 7, 13; 8, 8; 9, 13.

ENGLISH GRAMMAR.

TIME—THREE HOURS.

Examiner.—J. M. BUCHAN, M.A.

1. "My own Œnone,
Beautiful-brow'd Œnone, my own soul,
Behold this fruit, *whose* gleaming *rind ingrav'n*
'*For* the most fair,' would seem *to award it thine,*
As lovelier than whatever Oread haunt
The knolls of Ida, *loveliest* in all grace
Of movement and the charm of married brows."
—*Tennyson.*

(i). Analyze fully.
(ii). Parse the italicized words.

2. Correct the literary form of the following selections:

"This method is rather difficult for young pupils, but by combining this method with the Look and Say method I think it forms a very good method."

"One method is to teach the words in the order they are in the lesson, the fault of this is that the pupils soon learn the words by rote, to say them even without a book.

"Another is to pronounce each word after having spelt it first, the same letter having different sounds in different words confuses the child."

"The method of teaching reading, by first pointing out words and having them pronounced properly, and then the teacher reading the sentence as it should be read, and the pupils read afterwards, trying to imitate the teacher as much as possible, is to be commended."

"In the Look and Say method the word is taught as a whole which is most natural, the words should be printed on the board and pointed out to the child until its picture is familiar to his eye he will then be able to name the word whenever he sees it."

"We may then show that this may be done by inverting the divisor and then proceed according to multiplication."

"Afterwards question the class individually upon that part that you will be sure they all know."

"First, present one object to the pupils, and ask the name of the object; they will answer an apple (or whatever name the object is) write the word 'apple' on the black-board, and tell them that the word 'apple' stands for only one object."

"By this method children * * * are not confused by the difference of the sound of the letters when pronounced alone and their sound when combined to form a word."

"A transitive verb is a verb that the action passes from the actor to the object."

"Being there was such a number there he was afraid to proceed."

"Sir I have just received word from the Secretary that I failed to pass the examination in Chemistry and that 'I will have to satisfy the Examiners hereafter as to my knowledge of that subject.'

As you was the Examiner in that subject I would like to know what must I do in order to pass in it.

I have now been to * * * twice attending the Normal there and if it were possible to pass without having to go again I would like it very much.

If you would be kind enough to inform me of what is the best course to pursue I would be greatly obliged."

3. *(i).* Does equation rhyme with relation or occasion?
(ii). Does rind rhyme with signed or sinned?
(iii). Distinguish ay and aye as to pronunciation and meaning.
(iv). Accentuate complaisant, sonorous, peremptory.

4. Distinguish between
Wait on and wait for.
He entered the literary profession and He entered a literary profession.
Inva'lid and invalid.

5. Punctuate the following sentence in two ways:—
John says William is both an able and a good man.

6. Correct, or justify—
The auxiliaries may, can, and must are by some regarded as principal verbs.
Cornaro had become very corpulent previous to the adoption of his temperate habits.
Neither I nor he live anywheres in the neighbourhood.

7. Parse the italicized words in the following sentence:—
"The results which God has connected with actions will inevitably occur, all the created *power* in the universe *to* the contrary *notwithstanding.*"—*Wayland.*

8. The verb agrees with its nominative in number and person. Show how this rule applies in the various cases in which a verb is preceded by two or more nominatives.

9. Write sixteen words derived from the Latin verb *pello.*

Values.—1, 10+42; 2, 48; 3, 2+2+6+3; 4, 12; 5, 2; 6, 12; 7, 9; 8, 16; 9, 16.

ENGLISH LITERATURE.

TIME—TWO HOURS AND A QUARTER.

Examiner—J. M. BUCHAN.

SIR ROGER DE COVERLEY.

1. Sketch the character of the Chaplain.

2. "The court was sat before Sir Roger came; but notwithstanding all the justices had taken their places upon the bench, they made room for the old knight at the head of them; who, for his reputation in the country, took occasion to whisper in the judge's ear that he was glad his lordship had met with so much good weather in his circuit."

(i). What court was this?
(ii). Who are meant by 'the justices'?
(iii). *For his reputation in the country.* Explain the force of 'for.'

3. How did the *Spectator* differ from a modern newspaper?

THE LADY OF THE LAKE.

4. Give an account of the gathering of the clans, introducing quotations where you can.

5. "But hark! what blithe and jolly peal
Makes the Franciscan steeple reel?
And see! upon the crowded street,
In motley groups what masquers meet!

Banner and pageant, pipe and drum,
And merry morrice-dancers come.
I guess, by all this quaint array,
The burghers hold their sports to-day.
James will be there; he loves such show,
Where the good yeoman bends his bow,
And the tough wrestler foils his foe,
As well as where, in proud career,
The high-born tilter shivers spear."

(i). Who utters these words?
(ii). Write explanatory notes on 'Franciscan,' 'morrice-dancers,' 'James.'
(iii). Explain the meaning of 'motley,' 'quaint,' 'yeoman.'
(iv). Where was it customary for 'the high-born tilter' to shiver spear?
(v). Write notes on peculiarities in the versification of this passage.

6. In what connection do the following passages occur:
(i). "By artists form'd, who deem'd it shame
And sin to give their work a name."
(ii). "Crags, knolls, and mounds confusedly hurl'd,
The fragments of an earlier world."
(iii). "Who ever reck'd where, how, or when,
The prowling fox was trapp'd or slain?"
(iv). "And the stern joy which warriors feel
In foemen worthy of their steel."

7. Quote the description of the end of the combat between Fitz-James and Roderick, beginning with the lines,
"Like adder darting from his coil,
Like wolf that dashes through the toil."

8. State the principal differences which distinguish the poets of the age of Scott from those of the age of Addison.

Values.—1, 6; 2, 2+2+2; 3, 6; 4, 8; 5, 2+6+6+2+4; 6, 8; 7, 6; 8, 7.

HISTORY.

TIME—TWO HOURS AND A HALF.

Examiner—JOHN WATSON, M.A., LL.D.

1. Describe fully the social condition of the Anglo-Saxons.
2. What were the chief public acts of William I? Give some idea of the Feudal System; describe the way of living of the Normans, and estimate their influence on the English tongue.
3. Explain the causes which gave rise to the Civil War, and sketch the history of England under the Commonwealth.
4. When was the British North American Act passed? Explain its provisions, and state the duties assigned by it to the Dominion and Provincial Legislatures respectively.
5. Give an account of the Second Punic War, and of the struggle of the Plebeians for political rights.
6. What was the Quebec Act of 1774, and how was it received?

Values.—1, 18; 2, 18; 3, 18; 4, 18; 5, 18; 6, 10.

GEOGRAPHY.

TIME—TWO HOURS.

Examiner—S. ARTHUR MARLING, M.A.

1. What are the natural divisions of South America? What the political?
2. State the principal causes which modify the climate of a country, and give examples.
3. How are the frontiers between Austro-Hungary and Turkey, and between Greece and Turkey, marked out?
4. Sketch the Atlantic coast line of the United States, marking the position of the chief capes, and of the inlets with the cities thereon.
5. Show how the latitude of a place is determined, and give the latitude of New York, Toronto, Montreal, Florence, the Cape of Good Hope.
6. Describe (by a diagram if you can) the proposed route of the Canadian Pacific Railway, and show how it connects, through Canadian territory, with the Atlantic seaboard.
7. State the geographical position and the political relation of Candahar, Herat, Natal, Zanzibar, Hong-Kong, Corsica, Alsace.
8. State the form of government, religion and chief products of Egypt, Brazil, Cuba, Bengal, Switzerland and Cyprus.
9. What rivers flow from the St. Gothard Pass in Switzerland, and what are their respective courses?

Values.—1, 9; 2, 9; 3, 9; 4, 16; 5, 13; 6, 11; 7, 13; 8, 13; 9, 7.

BOOK-KEEPING.

TIME—ONE HOUR AND A QUARTER.

Examiner—J. C. GLASHAN.

1. What is the difference between *Single Entry* and *Double Entry*? What are the advantages of Double Entry?
2. How are the following accounts opened, conducted and closed:—*(a)* Stock, *(b)* Merchandise, *(c)* Bills Payable, *(d)* Interest?
3. What is the order of closing the Ledger?
4. On 4th July, 1881, A. B., of Toronto, gave Y. Z. his note for the sum of $125, payable three months after date. Draw the note so that it may be negotiable *without* endorsement.
What change would make it negotiable only on endorsement?
5. Journalize the following:—
(a). I commence business with Cash in the Bank of British North America, $3000; Mdse., $8740; a note by A. B., in favour of O. Q. Y.. $400. I also owe M. N. $97.50 on account.
(b). Bought Mdse., amounting to $1,300, for which I gave Cash $125, Cheque on the Bank of Commerce for $625, my note at 90 days for the balance.
(c). Had L. M.'s note for $100, due 1st September, discounted at the Bank of Toronto, net proceeds $98.75.
(d). Accepted F. G.'s draft at 10 days for the amount of their invoice of 10th July, $1724.85.
(e). Received a draft on the Ontario Bank for $2,375 net proceeds of legacy left me by C. G. Deposited the amount to my credit.

Values.—1, 16; 2, 20; 3, 8; 4, 12; 5, 24.

COMPOSITION.

TIME—ONE HOUR AND A QUARTER.

Examiner—JOHN WATSON, M.A., LL.D.

(Only One Question to be attempted).

1. Tell the incidents in any one of Sir Walter Scott's novels or poems.
2. Write a life of any distinguished man of letters.
3. Discuss, from your own point of view, the question as to the Protection of Native Industries.
4. Give a summary of Tennyson's *Princess*, or explain the meaning of his *Palace of Art.*

DICTATION.

TIME—THIRTY MINUTES.

Examiner—S. ARTHUR MARLING, M.A.

Note for the Presiding Examiner.—This paper is not to be seen by the candidates. It is to be read to them *three times—first*, at the ordinary rate of reading, they simply paying attention, to catch the drift of the passage; *second*, slowly, the candidates writing; *third*, for review.

It was not only by the efficiency of the restraints imposed on the royal prerogative that England was advantageously distinguished from most of the neighbouring countries. A peculiarity equally important was the relation in which the nobility stood here to the commonalty. There was a strong hereditary aristocracy, but it was least insolent and exclusive. It had none of the invidious character of a caste The dignity of knighthood was not beyond the reach of any man who could, by diligence and thrift, realize a good estate, or who could attract notice by his valour in a battle or a siege. It was no disparagement for the daughter of a duke, nay, of a royal duke, to espouse a distinguished commoner. Thus Sir John Howard married the daughter of Thomas Mowbray, duke of Norfolk. Sir Richard Pole married the Countess of Salisbury, daughter of George, Duke of Clarence. Between good blood and the privileges of peerage there was, fortunately for our country, no necessary connection. Pedigrees as long, and scutcheons as old, were to be found out of the House of Lords as in it. There was therefore, here, no line like that which, in some other countries, divided the patrician from the plebeian.

Contributions.

EDUCATION OF THE PEOPLE.

BY FIRMAN M'CLURE, TRURO, N. S.

Within the past century every science has been made to assume a new aspect; inventions and appliances of art have been as numberless as they are striking; almost every portion of the earth has been the theatre of a new and strange activity. But, after all, the most striking feature of this movement—an element pregnant with wide-spread and far-reaching consequences—is the development of the power of the people—the masses, and the revelation of that power to themselves.

In all past ages the chasm that separated between the fortunate *few* and the toiling masses was so broad and deep that there was little intercommunication or sympathy between them; but the time has now arrived when the masses are recognized as forming a constituent part of humanity—when their rights are acknowledged, their voice heard, and their influence felt. The great natural law of human equality—everywhere recorded in the volume of nature, everywhere revealed in religion, though overlooked and neglected through so many ages, though hunted and persecuted with the fagot and the torch, the rack and the halter of despotism, has at last obtained a voice through which to speak, not only in the ear of despots, but to the wide, wide world itself.

This element of power is now moving among the nations and upon the face of human society as the Spirit of God once moved on the face of the mighty deep. Despotism may enquire how it may be smothered and destroyed, but humanity will enquire how it may be guided, how it may obtain and elevate pure and safe development. Smothered it may not be—you may as well attempt to smother the heaving fires of Vesuvius. It is the upheaving of this mighty element that has convulsed Europe during the past few years, and, if we mistake not, the signs of the times are destined to convulse it more and more, until the establishment of universal freedom.

The only thing that can give tone and elevation, a right direction and useful result to this recognition and exercise of the rights and powers of the mass, is education—wide-spread, universal education. Along with the knowledge of their power must be imparted to the people the equally important knowledge of its proper use. There is no species of despotism so much to be dreaded as that of the multitude, conscious of their strength, but ignorant of its proper use. The French people furnish a striking illustration to this point. The world has no page in its history of so terrific a character, when the very foundations of civil government were swept away and the very framework of the social organization was dissolved, as that which records the conflicts, the sacrifices, and the fearful madness of the people in their first struggles for liberty. It was blind Samson bowing himself on the pillars of the Philistines' temple and bringing ruin and death on all beneath. And even in her more recent struggles behold the upheaving of power, untempered and unguided by light. At one moment, rising in their might, the people swept away every vestige of the throne; they then shout "Long live the Republic," and the next moment rush into the arms of despotism.

As we have said, education should be universal, the endowment of mind—I mean native, pure, bright, hopeful intellect is not a thing to be monopolized. Are the children of the rich, the learned, the powerful any more likely to be favoured with it than those of the virtuous and industrious poor? Is nature partial or even parsimonious in the bestowal of this gift? Nay! go into the by-ways of life, sequestered glen, the rugged steeps of the mountain side, where the poor cottager has erected his hovel, you pity its ragged homeliness, its poverty-stricken plainness, its want of those things which men are disposed to consider indispensable to comfort. But look upon the little flock gathered within that rude fold,—their well-developed, active limbs, their ruddy cheeks, their bright eyes, their sparkling countenances, their merry laugh, their gleesome gambols all tell us that the majesty and beauty of intellect is there—intellect whose waters bubble and gush up from their native fountains in spite of the frozen incrustation about the surface; intellect, perhaps, such as soared in the philosophy of a Newton, the verse of a Milton, or burst forth in the eloquence of a Demosthenes. Who can say that the future history of some in that family may not be interwoven with that of their country. And prouder may that father be of those heaven-endowed sons; prouder may that mother be of those blooming daughters, than of wealth, of place or power in all their efforts to bury stolid imbecility beneath a costly garb or a dashing equipage.

And if God crowns the most oppressed child of poverty with mind and intellect capable of the broadest development and the loftiest conceptions; if God crowns them with such endowments, let man beware how he would check their development or stifle their aspirations.

> "Defeat and scorn and shame
> Be his who strives to bind
> The restless, leaping waves of thought,
> The free tide of the mind."

We shall hail with gladness the dawning of that day in our country when the highest university shall be free as the common school, and both shall be free as the air we breathe or the water we drink.

But, lest we should be misapprehended, we urge no Utopian system of education that aims at converting the great mass of mankind into philosophers, poets, or statesmen. Till man can satisfy his appetite for food upon the abstractions of logic or grow fat upon mathematics, such a project, were it effected, would only produce famine and want. Education should not only be universal but practical; not unfitting for labour, but fitting to act with intelligence; not to smooth and wither the *hand*, but give *nerve* and power to the *head*, not regarding so much the exterior polish as the mental strength. We would have the people so educated that habits of reading and reflection, and above all of independent thought, will be formed. We would have them educated with direct reference to the manly avocations of life, and the responsibility that will devolve upon them as members of society. By true education we mean the development of the individuality of each person, so that he may recognize himself as disintegrated from the great mass of humanity and possessed of personal responsibilities and of personal aspirations. The want of this individuality is at once the characteristic and the curse of Mohammedan nations of the east. There society is reduced to a dead level—all are alike ignorant. The beggar might as well be the prince, the prince the beggar, as far as any intellectual fitness for their different positions is concerned. It is, indeed, one form of equality that is here exhibited, but it is not an equality that has any necessary connection with liberty. Where this individuality is not developed each person looks upon himself as not belonging to himself, but to the state. A singular and ludicrous instance of this abnegation of self-ownership is the law said still to be in force among some Tartar tribes which punishes most severely any one who dares to pull the tuft of hair upon another man's head, not because it injures the wearer of that precious ornament, but because *all tufts belong to the state.* This is just such ownership as some men concede to political parties now-a-days—intellect, conscience, nay, the very tufts of hair upon their heads, belong to political demagogues, and they may plait them into any fantastic shape they please without the least murmur of complaint on the part of the poor

sufferers. And why not? The very souls of such men confess a higher allegiance to party than to God, and it is only fitting that party should make them as mean in practice as they have made themselves in principle. Just conceive of a whole nation whose subjects regarded themselves— their intellect and passions, their bones and sinews, heads and hands, and the very tufts of hair upon their heads—not as their own, but as the absolute property and under the absolute control of a grand, central despot as ignorant, beastly, and mean as themselves, and you can readily imagine the dead level to which the minds, hearts and energies of such a people must inevitably sink.

What we want among our people; what we want as a nation, and what we must have if we are to become truly great is an expansion of individual life. This is the only sure foundation of liberty. Its absence means ignorance, and ignorance is sure to give rise to tyranny. The hugest tyranny on the face of the earth has its foundation stones imbedded in the ignorance and intellectual imbecility of the people. When Nicholas of Russia ascended the throne of the Czar there was some little commotion among the people and in the army. The cry of "Long live the Constitution" was raised, and the army responded "Hurrah for the Constitution." But, alas, so little did they know of the guardian angel of liberty, the constitution, that they believed themselves to be simply cheering the wife of the Emperor. On another occasion when a popular officer addressed his soldiers and wound up by saying, "My children, let us cry 'Long live the Republic,'" the soldiers, scared at the unknown word, were afraid to repeat it. An old grenadier, however, acting as spokesman for the army, said, "We are willing to cry 'Long live the Republic' since your excellency desires it, but we would like to know first who is to be Czar." "There will be no more czars," replied the officer. "Oh, in that case, your honour, it can't be in Russia."

This great question of the education of the people, and *how* they shall be educated, is one of vast moment to us as a nation. A mighty tide of emigration must soon be expected to set in upon our shores. It will sweep across the broad extent of our territory and dash its spray to the very base of the Rocky Mountains; it will sweep along our rivers and lakes; it will spread out over the glorious expanse of our prairies; it will permeate the fastnesses of our primæval forests; along the line of every railroad and canal; delving in the darkness of every mine; amidst the bustle of every manufactory, and giving form and character to every rising village, it will be, and is already found.

Wide will be the diversity of their character and origin, many of them ignorant, besotted, brutal. They come here to be free men, to live among us, to act and re-act upon society. They come to sway a political influence, to stand at the ballot box and yield in common with us the power that is to determine the destiny of our country.

What is to be the result of all this? The statesman forecasting with deep concern asks, What will be the result upon the institutions of the country? The philanthropist, What will be its influence upon the conditions of the people? What shall the end of all these things be?

This anxiety is not without cause. Let these confluent streams of humanity flow in upon us, and they will be like the streams that flow into the Dead Sea, the pure to become corrupt and the impure to become more vile, till deadly disease and fever are exhaled from the whole surface and impregnate the entire atmosphere. What then? Shall we say to this inflowing tide of human life, "Hold back thy waves?" Nay! this we cannot do, and dare not if we could.

Ours is the safest, almost the only safe, asylum for oppressed humanity on the face of the earth. We have sent forth our invitation to the oppressed everywhere to come with us and be free. Our invitation has imparted new life to those that were well-nigh perished, and on they come, and on they will come; you might as well put forth your hand to stop the avalanche. What, then, is our hope? Our hope as an intelligent and virtuous people, as a free nation whose citizens are not the abject serfs of despotic domination, nor yet the mean foot-balls of political demagogues, is in the universal diffusion of the conservative and saving elements of education and religion. This will mould into one character, our whole people, however wide may be their origin or diverse their character. We have reached a great crisis in our history, and by our present conduct we decide our future destiny.

"The crisis passes on as face to face with us it stands,
With solemn lips of question like the Sphinx on Egypt's sands;
This day we fashion destiny, our web of fate we spin,
This day for all hereafter choose we holiness or sin.
Even now from starry Gerizim, or Ebal's cloudy crown,
We call the dews of blessing or the bolts of cursing down.

"By the future that awaits us, by all the hopes that cast,
Their faint and trembling beams across the blackness of the past;
And by the blessed thought of Him, who for earth's freedom died,
Oh, my people! Oh, my brothers! let us choose the righteous side.

"So shall the northern pioneer go joyful on his way,
To wed Columbia's waters, to calm Chebucto bay;
To make the rugged places smooth, to sow the vales with grain,
And bar with liberty and love, the Bible in his train,
The mighty West shall bless the East, and sea shall answer sea,
And mountain unto mountain call,
PRAISE GOD, FOR WE ARE FREE!"

Selections.

CORPORAL PUNISHMENT.

Thomas Hunter, now President of the Normal College, when Principal of No. 35, wrote: "In my succession to the Principalship of No. 35, I inherited the rod precisely the same as a king inherits his father's sceptre. I wielded my baton of power for years, without a thought that there was anything improper in it, until one day I whipped two boys whom I discovered, five minutes afterwards, to have been innocent. No words can paint the grief and vexation I felt. I asked the boys to inflict the same amount of punishment on me; but they refused. I then told them I would remit the punishment the next time they deserved it. But still the idea haunted me that I had done the boys great wrong. It was little use my saying I meant it for their good; I thought I was right at the time, etc. I kept repeating—a blow inflicted cannot be recalled. If I had given ten, twenty, fifty demerits, I could have remedied the injustice or mistake in a moment. Well, this made me so cautious that sometimes for a whole month I would not use the rod at all. The subordinate teachers found me so particular in investigating and demanding the most direct demonstration of guilt that many of them ceased to report for punishment. They were thus thrown on their own resources. I observed these classes; I examined them, and discovered that they were the best classes in school. In short, I came to measure the success or non-success of a teacher by the amount of corporal punishment inflicted. The best teachers had none; the worst had the most. At last the rod was limited to the sustaining of new teachers. So that I shall oppose the appointment of those who cannot succeed without the rod. Fifty immortal beings must not be brutalized to make one teacher succeed as a disciplinarian. My school averaged 876 for the past year. It had a daily attendance of 1,000 boys. The classes contained youths from fourteen to twenty-one years of age. *The order and effectiveness of the school were much superior to the same when corporal punishment was used.* But, above all, the "*esprit du corps*" was infinitely higher. I might go on and expatiate upon this subject *con amore;* but it will suffice

to state that I could not be paid to take charge of a school in which I was obliged to use the rod. It is a relic of *mediæval barbarism*, when study was a penance, and a student an ascetic. It has been abolished in the army and navy. It must be ultimately abolished in schools. * * Since the abolition of corporal punishment, which was purely voluntary on my part, the attendance has increased and the grade of scholarship advanced; *the moral standard of the pupils* has become higher, and the views of the teachers more liberal and advanced. By removing the rod, fear, the father of falsehood, disappears, and a nobler and manlier spirit is created throughout the whole school. A sense of honour is cultivated among the pupils; and the teachers, thrown upon their own resources, quickly acquire the tact and discretion, the judgment and self-command, necessary to enable them to govern with ease and effect. Thus, instead of ruling as the Russians do in Poland, by sheer force of terror, the scholars are instructed to govern themselves; and order, instead of proceeding from the teacher, flows in pure and healthy currents from within their own minds. *I am amazed upon reflection, that I ever degraded my pupils, myself and my calling, by raising my arm to strike a child into whose nostrils God had breathed the breath of life;* in whose mind and heart he had planted faculties and feelings *susceptible to the slightest touch of kindness.* Every blow inflicted was a public impeachment of my fitness for the position to which I had been called. Experience teaches that even the lowest of humanity are not utterly depraved, and that the better and holier feelings of human nature, particularly in the young, are not dead, but dormant. The rod kills; kindness awakens corresponding feelings; and what duty in life can be more exalted than to take charge of these poor, ignorant, neglected waifs of society, and teach them the difference between right and wrong, to love the one and to hate the other? It is impossible to whip them into a sense of duty. They must be kindly led into the beautiful paths of righteousness. The mean and the cowardly may appear reformed while the rod is suspended *in terrorem*, over them; but *remove it—and it must be removed sooner or later*—and behold the liars, the cheats, the swindlers, and the pests of society! But nine out of ten boys are neither mean nor cowardly; they are high-spirited and courageous; and whipping for acts merely mischievous, for failure to recite correctly, or to maintain discipline, is ruinous in the extreme, arousing evil passions and all that is desperate and wicked in human nature. One simple act influenced me more than all else to abandon corporal punishment, namely, able and experienced teachers never required the aid of the rod, while inefficient and apprentice teachers could not maintain good discipline without it. Why, I have often asked myself, punish boys for the shortcomings of their instructors? Is it right? Is it just? Certainly not, was the inevitable reply. Many a time I felt that the *teacher was more to blame than the scholar.* The substitution of a moral suasion for corporal punishment has produced even *better results upon the children of the poor and ignorant* than upon the children of the rich and educated; for the contrast between the kicking and cuffing at home, and the gentle kindness and uniform discipline at school, exerts the most beneficial influence upon their minds and hearts. His father beats him in anger, and the child sees and remembers it; for a similar offence, his teacher, firmly, kindly and gently reproves him, appealing to his reason and his feelings. Does the boy not realize the difference? He would be lower in the scale of animals than a dog or a horse if he did not. The very fact that all these physical punishments at home have failed to make good boys, but on the contrary have made them so bad that teachers are obliged to resort to similar means to keep them in subordination in school, destroys the argument in favour of corporal punishment most completely. They have been whipped by their parents, and they are bad; therefore we must whip them at school to make them good. A most lame and impotent conclusion."—*Teachers' Institute.*

THE HUMAN BRAIN AND MIND.

The brain has evidently been a great mystery to the physiological world. Some assert that it is the dwelling place of the mind, the earthly home of the spirit, the busy house of the inventive soul, from which all science and art emanate; the classic hall from which all poetry, dramas and fictions leave the mind of the writer, and are presented to the world as specimens and proof of the delicacy and power of the human mind. But we arrive at the question which many ask, "What is the real use of the brain?" It is said to use one-fifth the blood of the human system, and to take to itself one-fifth the nourishment of the body. Then, surely, it must have some office to fulfil. What, then, is it? Can we deny that it is for the use of mind? Surely this has been proven to us. Yet, should we ask *how* mind acts upon the brain, echo would be our only answer, for the wise proverb of old Solon "Know thyself," has never been fulfilled. Man may study the laws of machinery; may count, calculate and name with respect to the distant orbs that send to us their feeble, because far-away, light. He may go into the bosom of the earth in geological research, read ages by her fossils and rocks, trace rivers to their distant sources, classify animals and plants, yet say to him, "Know thyself," and his own mind will pause, appalled at the knowledge of how little he knows, and he realizes that there is a mystery connected with the working of the human brain, which the mind of man has never penetrated. Of all the subjects of philosophy, that which pertains to the mind of man is undoubtedly the most interesting and important. Every discovery, therefore, in this imperfectly explored region—every fresh ray of light cast upon this clouded tract—should be hailed with joy by every votary of science and every friend of man.

Phrenologists tell us that the whole brain does not have to move for each faculty—they each have their own and permanent seat in the brain. Here we find that if one part of the brain is deficient, is small, we can put it to use, and by constant application it will increase in size and strength. It may really acquire the strength and activity of other portions of the brain. How careful we should be to self-examine and learn our weaker organs, and by this means be enabled to discover "the discordant notes in the mental anthem which we are every day chanting, and the key instruments of our souls in perfect harmony."

These different faculties of the mind and their cultivation is what brings to us the different geniuses of our race—the poet, painter, sculptor, orator, novelist or statesmen. There is a faculty in the mind of the poet which causes him to look out upon a different world from that which the practical man views. "There is the sublime poetry of his mind—those splendid flights and burning feelings, the wildest, loftiest, the grandest views, the lightning thoughts that wrap in a blaze of glory the canopy of his soul." He listens to the music of his own nature, as it takes the form of the ocean's surging waves against the mighty breakers, from the gentle sighing of the summer breeze to the fierce howling of the midnight storm, from the golden sunset to the lowering tempest, from the mellow twilight to the lightning glare, from the rupture of love to the torture of hate—his mind grasps all these as it soars afar on the wings of poetical fancy. In studying the mind we feel that we are in the sanctuary of the soul, that we sit in meditation in the room where all freaks of fancy are portrayed, where passion writes its burning words, where anger thunders its threats, where love whispers its silvery notes; from whence arise all ardent aspirations and lofty thoughts—in fact, the home of genius. Ah the restless brain! Were it not for its startling power where now would be our travelling facilities, darting from one commercial centre to another; where the ponderous steamship that hurries over the vast deep, and the message that flashes along the wire? They are all the result of

the most intense brain labour. Every discovery in science emanates from labour of the mind. Whence comes our knowledge of the vast number of distant worlds and planetary systems that roll in universal harmony? Are we not forever indebted to the master minds of Pythagoras, Copernicus and Galileo; also, to Kepler, who, in his own day, won the title of "the legislator of the heavens?" With what sublime contempt must the mind of Galileo have received his sentence as a "dangerous heretic," deserving punishment because he taught the Copernican system, and demonstrated that the earth revolves around the sun! Centuries have rolled up their rich floods of discovery to aid in rearing to its present growth the science of astronomy. Every specimen of classic literature is the result of brain labour. View Goldsmith's "Traveller." Ten years elapsed before its completion. Tennyson wrote "Come into the Garden, Maud," fifty times before it pleased him. The beginning of Plato's "Republic," it is said, was found in an old tablet, written all over in a variety of ways, showing what brain labour had wrought.

We turn no way but what we meet with some evidence of the powerful, restless human mind, the constant work and just success of an energetic brain. Tupper says: "The mind is not like merchandise, which decreaseth in the using," and so we agree. Using the mind only increases it, and, by following its best inclinations, we are lifted above the grosser part of our nature. Mind has by some been styled the breath of God. It is that part of us which touches nearest divinity. It knows no idle vacuity. At night, after the weariness of the day, the body sleeps and is refreshed, but the mental vision is awake, restless and reasoning, even in dreams.

Do we not, in reading Dante, Milton, Plutarch and Byron find, like we find a fossil imbedded in a rock, the mind that penned the lines? Truly, it is embalmed in their writings. Even so do the symboled thoughts tell of a departed soul. How we look back at the winding vista of the past, and see some whose names are rendered immortal by the stars of mind which once glittered upon their brows with unearthly lustre. Old Homer still brings to our mental vision the Trojan war, where it can rage at our bidding in narrowest walls, and we seem to see the marvellous beauty of "The fair Helen of Troy."

Yes, we are indebted to those who have gone before us—those who have toiled, many of them in penury and sorrow, while their minds soared above the wants of clay, and gleaned for us treasures of knowledge. But there is yet work for desiring minds; there are fields unexplored, worlds undiscovered. There are honours not yet won, and laurel wreaths waiting in unseen hands to crown the one whose mind will conquer all obstacles, and whose new ideas will flow from new springs to enrich the treasury of knowledge.—*Texa Educational Journal.*

SCHOOL MUSEUMS.

It seems singular, indeed, that not more teachers in public schools have the idea that they, as well as their colleagues in higher institutions, may also have a museum of natural history for their schools. Might we not find in each public school a collection of various kinds of wood, tree-barks, seeds, seed-pods, fruits that can be preserved dry, interesting pieces of stone, coal, broken up pebbles, lime (burned and unburned), pieces of iron (bent, broken and twisted to show the construction), joints from the necks of domestic birds, or the vertebra of a pig, sheep, &c., skulls and skeletons of small animals, fishes and reptiles, shells of snails and river slugs, and similar things which can be obtained without any cost, with only a little good will.

Ferns are not to be found in every locality, but it would be easy to obtain some and preserve them in the school museum.

Farther, should it be so difficult to obtain a good picture of a lion, a camel, a palm or any other foreign produce of nature. Foreign products are not so difficult to obtain, at least not those which come into consideration in the public school. We may only think of the various spices. Every grocer is willing to let you have a few coffee-pods in which both beans are yet united, whenever he finds some in his coffee.

With a good will on the part of the teacher, much can be done, and if the pupil sees a diligent use of the school museum, and the instruction made interesting thereby, then the interest of the pupil will soon show itself by an eager collection of specimens. The teacher soon will have a plentiful supply for the museum, so that he can select that which is worth preserving, replace what has been spoiled by new objects, less characteristic by better ones.

Thus the pupils will learn to see and to observe. They will see in open nature things which the school does not tell them, they will ask for information, and if to this is added, animated by the teacher, a meaning and comparison of the objects found, then the practical demands of life are materially furthered.

An occupation with nature as indicated will also help to develop some manual skill and dexterity, which will be a benefit to the scholar in after life, especially to the mechanic and farmer.

Above I have already indicated the scope of such a collection. In the first place, a scrap-book may be obtained, in which to preserve pictures of animals, plants and noted scenery. This collection may consist of lithographs, wood cuts clipped from illustrated newspapers, and photographs neatly pasted to the leaves. The scrap-book may be either bought cheaply or made of light Manilla paper.

In connection with this I may say that stereoscopes and stereoscopic views may be cheaply bought. Geographical instructions may be enlivened and made interesting by views of noted places and interesting scenes. Objects of natural history can be obtained nearly without any expense. Perhaps the only expense which may be incurred, but not necessarily, are a few simple instruments for collection, which can be mostly home-made, and for a little alcohol. For collecting geological specimens, all that is needed is a riveting hammer and cold chisel, or a small stone-hammer with a cutting edge, such as stonemasons use, which can be obtained anywhere. A cold chisel is easily made from an old heavy flat file, which any blacksmith can sharpen and temper. Excavations, quarries and mines should be examined for rocks, earths and fossils. Ask the workmen to look for such things as are desirable, and which look queer to them. A kind word to the workmen will do wonders in assisting the collector.

For pebbles and fossils search also the banks of streams; very interesting specimens are found here. In cutting fossils from rocks care must be taken not to injure them. Rocks should be cut as much as possible in square pieces of about six inches thick. A little practice will soon help. The botanical collection may contain the plants of the neighbourhood, at least the rarer smaller plants, especially those poisonous specimens of wood and bark, leaves, blossoms and fruits of trees; of the latter, those which can be preserved in a dry state, lichens, mosses, ferns, etc. Smaller plants are to be taken up with the roots, and, if possible, with flowers and seeds. Of larger ones, branches with some leaves near the roots will suffice. The specimens should be placed between soft unsized paper; the poorest printing paper or grocers' tea-paper is excellent.

They should be dried as rapidly as possible, between as much paper as will absorb their moisture, then laid under a board weighted by some heavy bodies, as stones; the pressure should be so as not to crush the delicate part.

To prevent moulding, the paper should be changed often. After drying, place the plants in a herbarium, fasten the specimens by means of small gummed paper slips to the sheet, and write in the lower right hand corner, or on a label pasted on the sheet, the generic and specific, and common English name, locality where found, date of collections and colour of flower, with other remarks. If the name of the plant is unknown mark it by a number or some other sign till the name can be ascertained, then place it in stiff covers which are to contain all the plants of the genus.

Leaves of trees are to be preserved in the same manner.

Dry fruits may be kept in small tin or pasteboard boxes or trays. Specimens of wood may be cut in blocks of about four by four inches high, the bark to be left on, and one side to be smoothed with a plane, the other sides left as they are split out. All the implements necessary for collecting plants is a strong knife to take up plants and to cut away wooden branches. Lichens do not need any preparation.—Ed. A. Killian in *American Journal of Education.*

HEALTH THROUGH EDUCATION.

BENJAMIN WARD RICHARDSON.

Address delivered at the Conference on Education, held in the Rooms of the Society of Arts, January 15, 1880.

In this address I propose to consider the question of "Health through Education," that is to say, the study of those methods of education by which the mind, during the whole period of its work, may be maintained in a healthy and properly balanced condition, its powers usefully employed, and its natural tendences allowed full and natural scope and development.

Up to the present time the progress of science for the promotion of health has had reference, almost exclusively, to the physical health in education, to the state of the school-room, to the diet of the scholar, to the clothing, to the training and exercise of the body, to the position of the scholar at the desk, and to such-like purely physical considerations. These considerations can scarcely be over-estimated. I have had the happiness to associate with the most earnest and energetic of the sanitary leaders who, in our generation, have striven to force them on the attention of a public not always too willing to listen to them, and I regret that I should have to put them somewhat aside for the present hour. But I feel there is another subject even of more pressing moment, and therefore I turn to it. The purely physical study has made its way to some extent: the subject I have now before me has made, practically, no way at all, although its importance can hardly be exaggerated.

Men engaged steadily and systematically in taking different views of the same object are led to see differently and to express themselves differently. I cannot, therefore, conceal that I approach the argument I would set forth with a perfect knowledge of the fact that I must speak what is, or what may seem to be, contrary to the opinions which are entertained by many who are deeply interested in the work of education, and who, in most respects, are masters or mistresses of the argument on its practical, scholastic side. Those who are engaged in the actual labour of teaching from day to day may entertain views very different in kind from mine. Those who are anxious and over-anxious for the education of their children may entertain views of a very different character from mine, and may, indeed, be far more likely than the teachers of their children to differ from me. The teachers will, I think, in their hearts, be in most respects with me altogether.

When I say that the physical side of the health question is not a part of my present programme, I do not quite state the whole truth, for the physical side of the question is, in one direction, admitted in it. There is always in progress a reaction of the mind on the body which, when it is clearly understood, is seen to be momentous in its results. The amount of physical disease that is dependent on mental influence is large beyond any accepted present conception of it. I am almost afraid to express what I know on this point, lest I should appear to be putting forward what is speculative instead of what is real. And yet I may venture to say that a good fourth of the deaths of adults who die in their prime from what are called natural diseases are due to diseased conditions of body that have been induced by mental influences. The actual and immediate cause of the demise, the killing blow, may be outside the body, may be independent of the body, may be very subtle and seemingly very slight, may admit of no correct scientific exposition at this present stage of science, may be some unknown or obscure meteorological influence; and yet the conditions leading up to the point when slight causes take effect may all the while have been in steady progress, and may all the while have been mental—mental from the first in the persons affected. Thus men in the prime of life often die suddenly from some slight external influence of a physical nature which has acted upon them fatally, and which gets the whole of the blame; but the conditions of the body which have rendered that external influence effective have been long in operation; have been, in the strictest form of expression, mental influences modifying the physical structures, and making those structures susceptible of destructive change from slight external shocks or vibrations. Thus, again, hereditary tendencies, originally formed from mental action, are often transmitted in the character of hereditary physical disease, under which, from some slight external influence, death may occur.

Impressions traversing the senses into the organ of the mind afford the most striking illustrations of physical derangements and of degenerations from mental action in which the mental and the physical most intimately blend. They give rise, in fact, to a term which is as distinctly physical as any that would describe a mechanical concussion or blow—the term, most correct in its application, of "mental shock;" a shock or blow received by the body through the mind, and producing physical action in the body; a transmutation of an unknown force—which we have only named, so far, by metaphysical names, such as fear, anger, hate, love—into a strictly physical force and a resultant effect; a vibration through the senses, yet not of mere sound, not of mere light, but of something more of which sound or sight are but the modes of conveyance, modes of conveyance into the nervous atmosphere or ether, to be changed there into some new state of motion or into a new physical condition that is inimical to continuance of life.

Let me explain by one example.

A little boy was once brought to me by a medical friend under the following painful circumstances. The boy was the son of a carpenter, and his father sent him occasionally to a neighbouring timber-yard to give orders for wood. The keeper of the timber-yard, a modified type of Mr. Quilp, had a morbid delight in frightening children. He had bought a large ugly and savage dog, and he tied the dog closely up in a recess in the passage leading to the timber-yard. The little boy I speak of, knowing nothing of this new and terrible importation, was proceeding, as usual, down to the yard, when the dog flew at him. The dog could not reach the boy, but the little fellow was so affrighted that he stood motionless for two or three minutes, and at last fell to the earth. He was picked up by some kind passer-by and taken home, and from that moment was stricken by the fatal disease called diabetes, of which in time he died. In this instance there was the direct physico-mental shock followed by physical change, in line. There was the metaphysical vibration of fear transmitted by sight and sound into the body; there was the nervous storm engendered in the body; there was the resultant in a modification of chemical action, by which, in continuous new conditions, a part of the food taken into the body was changed into glucose or grape-sugar; and, on the formation of this sugar in excess, there followed a new series of other organic changes, ending in destruction of the unity of functions which makes up what we call life. I need scarcely say that the illustration above supplied is one in which a mental impression, made through the mind upon the body, was exceptionally severe in its physical effects. But such severe effects have to be seen before the great and primary truths they teach can be recognised.

I was myself many years in practice as a physician before I fully recognised these physical changes wrought through the windows of the mind. It is true I had read of those who were almost bechilled to jelly by the act of fear, but then I looked upon such sayings as mere flights of poetic genius, and in medical literature proper I discovered no clue for guidance in this beat of observation. At last such facts as the one I have stated arrested my attention, and since it has been so arrested I have been daily studying the subject with increasing interest. I could, indeed, fill this essay and many essays with details of observed phenomena of physical disease from mental action.

Indeed, in so many forms do the mental impressions tell on the bodily organisation, that mental health in education becomes a new branch of science which all persons should begin to learn. By the assistance of this learning our successors will formulate a new world of thought, and will in no small degree fashion, physically, a new world of women and men, having the garb of their souls structurally finer, stronger, and more tenacious of life, from whom shall come a new evolution of species, and a new living earth.

On this inviting theme I must not longer dwell. It is my desire now to treat on those bad mental influences in education which undo the mental and physical health, and on the modes by which these injurious influences may be removed.

Suppose we had before us in our schools a body of children all of whom were typical specimens of health. It would then be a momentous fact to know that we could, by our methods of feeding the children with knowledge, make them all specimens of good or bad health. But the truth is that, when we have before us a class of children, we have probably not one before us who is a typical specimen of perfect health. It is a solemn thing to say, and yet it is as truthful as it is solemn, that I have never in my whole professional life seen a perfectly healthy child, and I doubt if one exists in the land. The birthday of health is not yet in the almanac. As a rule, in the majority of children of every class, there is some prepared mode of departure from health inborn in its members. In many of its members the bad health is not merely inborn, but it is in actual existence, easily detectable under scientific research. How important, then, that in the modes of training the mind such modes only should be selected as shall lead to the better development of both body and

mind! How vastly important that all modes shall be avoided which shall lead to a lower development of the mind, and of the body through the mind! If, indeed, it could be that the mind could be elevated while the body was degraded, I, for my part, should doubt the wisdom of education. And if it be really impossible, as I should maintain it is, to elevate either mind or body alone, and absolutely impossible to make one great and the other little, how wide a problem lies before us in respect to education in this age!

What, then, are the modes to be followed in education by which the mental training may be made conducive to both mental and physical development and regeneration? May we think of such modes? I am sure we may, and practice them also. At the same time, the thought as well as the practice requires to be considered from new points of view of an educational kind.

Let me proceed to indicate what seem to be some of the basic changes that must be made in education in order to found a system of mental and physical health on education. I cannot pretend to do more than touch on a few of these changes, the more prominent to my own mind, but far from a complete list.

In the first place, there is, I venture to think, too much friction of mind in education, and, as a consequence, much injury, mental and physical, from cross, nervous vibration, owing to the plan which now prevails of treating every boy and girl as if every boy and girl had the same nervous construction and mental aptitude.

As it seems to me, there are as distinctly two grand divisions of mental aptitudes as there are two grand divisions of sex, and any attempt to convert one into the other is a certain failure. The two divisions I refer to are the analytical and the synthetical, or, in other words, the examining and the constructive types of mind.

In our common conversation on living men with whom we are conversant in life we are constantly observing upon them in respect to these two qualities of mind. We say of one man that he has no idea or plan of looking into details; he cannot calculate accurately; he cannot be intrusted with any minute labour of details; but he can construct anything. Give him the tools and materials for work, and he will build a house; but if he had to collect and assort the tools and materials, he would never construct at all. We say of another man that he is admirable at details, and can be intrusted with any work requiring minute definition, but he has no idea of putting anything together so as to produce a new result or effect.

Moreover, we assign to these different men distinctive services in the world. We understand them perfectly, and by an unwritten and, I may almost say, by a spontaneous estimate we reckon them up and give them their precise place in the affairs of life with which they are connected. It is as if by design of nature these classes of men, and it may be of women also, exist as pure types of intellectual form, have always existed and are always being repeated. In other words, it is as if they are definite families, and that out of them, as out of a dual nature, that human organisation of thought, which we call history, is educed.

The elements of the analytical and synthetical minds appear on a large scale in the pursuits which men follow. The mathematician is analytical, and he, in whatever science his powers are called forth, is always working on the analytical line. He may be an astronomer, a chemist, a navigator, an engineer, an architect, a physician, a painter; but whatever he is, all his work is by analysis. We often wonder at his labour, at his accuracy, at his fidelity. We may say of him that he approaches nature herself in the magnitude and perfection of his results, but we never say of him that he is inventive or constructive. From him much that is quite new comes forth, but it is always something that he has hauled out of the dark recesses: he lays his treasures at our feet, and we are content to admire and wonder. We may be entranced with our view of the produce of this man, but he very rarely kindles our enthusiasm for him as a man, and very often we find that no credit has been given to him as himself deserving of it. We praise only his industry. The poet is, as a rule, synthetical. This does not always follow, but it usually does, and I think we may fairly say that every man of a purely constructive mind is a poet, albeit we may not be able to say that every poet is constructive. But in whatever particular phrase of life and action he exists he shows his synthesis distinctively. His tendency is naturally to drift into such labours as are inventive and constructive. Frequently he avails himself of the labours of the analyst whom he unconsciously follows believing meantime in himself alone. He makes for us romance in literature; mechanical instruments in handicraft; pictures in art; tunes and melodies in music; plays and epics and songs in poetry; strategies in war; laws in parliament; speculations in commerce; methods in science.

The two orders of men are often as distinct in feeling as they are in work. They do not love each other, and they admire each other little. Jealousy does not separate them, but innate repulsion. The analytical looks on the synthetical scholar as wild, untrustworthy, presuming, hasty, dangerous. The synthetical looks on the analytical with pity, or it may be contempt, as on one narrow, conceited, and so cautious as to be helpless; a bird that has never been fledged, or, being fledged, has not dared to stretch out his wings to fly.

It has in rarest instances happened that the two natures have been combined in one and the same person. It is, I think, probable that this combination has been the reason for the appearance of the six or seven greatest of mankind. As a general fact, however, the combination has not been fortunate. It has most frequently produced startling mediocrities, whose claims to greatness have been sources of disputation rather than instances of acknowledged excellence.

These orders of mind, distinctive of the distinct, are in their primitive forms so essential to the course of progress, that it is difficult to assign priority of value to either. The analytical mind seems to be most industrious and soundest in practice; the synthetical, the most brilliant, and when on the right track the most astounding, in the effects it produces. The analytical is the first parent of knowledge, the synthetical the second—both necessary.

To apply this reasoning to our present argument, I maintain that, as the child is the father of the man, so in every child there is always to be detected, if it be a child of any parts at all, the type of mind. I will undertake to say that every experienced teacher could divide his school into these two great analytical and synthetical classes. He might have a few who combine both powers, and he would no doubt have a residuum, a true *caput mortuum*, that had no distinctive powers at all; but he would have the two distinctives. He would have the scholars who could analyse as easily as they could run or walk, and to whom the mathematical problem and all that may be called analytical is as easy as play, but who have little inventive or constructive power. He would have the scholars whose minds are ever open to impressions from outer natural phenomena, who have quick original ideas, who have, it may be, the true poetic sentiment, but who cannot grasp the analytical and detailed departments of learning at all. The illustrious William Harvey was a scholar of this latter type. It is related of him that late in his life he was discovered studying Oughtred's "Clavis Mathematica," and he remarked then that the simplicity of the propositions—their obviousness, as it were—had formerly been an obstacle in his way. Harvey was simply a pure type of a most original, and I may go so far as to say mechanical, mind, which, abashed in youth before mathematical problems, in later life, when the reasoning faculty—the wise faculty—was brought to bear upon the difficulties, looked on the understanding of them as difficulties merely from their self-obviousness and simplicity.

The moral that I draw from these outlines of natural fact is that in teaching it is injury of mind, and thereby injury of body, to try to force analytical minds into synthetical grooves, or to try to force synthetical minds into analytical. I have an instance under my own observation at this time in which a worthy, a most earnest, and I may add most practical, mathematical master is trying to teach a boy, whose mind is all for construction, the details of the science of details. He had better try to get a third chemical element out of water by chemical process, for that task, hard as it might be, could possibly be a success. But this boy, bright of brightness when the lines on which he can tread are before him, is hopeless here. The master may be angry or perplexed, the parents disappointed;—the the thing cannot be done. If fifty masters could be employed in the effort, or if the ability of fifty masters could be forced into one master, the thing could not be done. By a mere act of temporary cram, the thing might be carried out in what we may call a treacherous manner; but it could not be carried out in an honest and reliable education of that youthful mind. Meanwhile, the injury that is being inflicted on the youthful organism is incalculable. Time that could be usefully expended is ruthlessly cast away. Then, the mind itself is rendered irritable and obtuse with each lesson, and the hope deferred makes the heart sick in the truest sense of the term. The failure of each lesson tells on the heart, making that organ irritable and uncertain—making its owner, in fact, "sick at heart." This tells in turn on the stomach, causing persistent dyspepsia, and soon there follow the trains of sensations of disappointment, fears of failure in other things, anger at sight of the success of other minds, and all those troubles which lead to the perversion of feeling which so easily becomes the promoter of universal doubt and the opener of despair.

Teachers of youthful scholars will recognize so readily and fully the facts I name, that they will perhaps wonder that I should relate them. Let them pardon me for the sake of the object I have in view. They know, and I know, that these natural differences exist, but the fathers and mothers of children of such differing capacities do not know. The parents look upon all children as alike, and expect all to be turned out of the same brand. If the children are not turned out of the same brand the fault, of course, is the master's, and the master or mistress is thought to be very conceited or overbearing if he or she presumes to state the truth. Perhaps, therefore, it is best for me, who am not a master, to dare to speak the truth in all its nakedness. I am only one of the public, and can bear, without harm, any amount of chastisement for my temerity.

As a practical outcome of this part of my argument I should suggest to the public that the members of the scholastic profession should be duly encouraged to try and discriminate, in the case of all their scholars, what is the natural bent of the mind of each scholar; and that, having found this out satisfactorily, they should be further encouraged to train the scholar according to his bent of mind, in order to make him what he really can be as distinct from what he never can be made by any forced attempt at producing the impossible.

To be continued.

A PLEA FOR THE SPELLING BOOK.

The object of the present article is to say a word or two on the all-important and much-neglected subject of English orthography. Perhaps there is no more apparent outcome of the high-pressure style of education than this same lack. The old spelling-books and oral spelling and the spelling school accomplished much, but there was one evident lack in it all. Many a hero of the spelling school was immediately floored on a monosyllable when he came to put his knowledge into the only possible practice, viz: that of writing a simple business or friendly letter. From this the conclusion was immediately drawn that the spelling-book was at fault, and it was cast aside in many instances, and the subject pursued in a haphazard fashion, from the Readers or from the general work of the school-room.

Now it is evident to the thoughtful mind that the golden mean between these two extremes should be sought. There is, perhaps, no one subject that is attracting so much worthy attention at the present time as this. The speller undoubtedly should be used. Spelling should undoubtedly be taught as a primary duty, and not as a secondary exercise, as it must necessarily become when it is taken as an adjunct and afterclap of the reading lesson. In reading the primary attention is given to it and the mind is occupied with the reading, and spelling must of necessity become a secondary and neglected matter. One great mistake of the old spelling-book oral spelling was that special attention was paid to catch words and those of infrequent use, while the common, necessary words of the language were only given a secondary attention. The demands of the time are for practicability, and the argument is decidedly against the person who would hold that a real achievment had been attained by the pupil who could glibly spell "belles lettres" or "abracadabra" so long as such words as "judgment" and "separate" and "recommend" are chronically missed. The only use that can by any possible means be made of spelling is in writing; therefore words should be learned as they are to be used. Short sentences should be constructed in which these common words occur, concise rules should be constructed which cover the general principles of the subject; pupils should be taught to understand that they may be adepts in penmanship, may be fine Latin and Greek students and great mathematicians, and still have it all go for naught if they are not good in English orthography. In other words, the fact should be impressed that it is an absolute, educational crime in a cultured person to be a poor speller of his mother-tongue.

I believe that much of the neglect in the matter of spelling has come about through the incessant talk about reformed orthography. We may pray and work with religious fervour for a reform, but until that reform comes we have nothing left but to teach according to the present standard; and, in so teaching, I believe a good book is absolutely essential to the achievement of satisfactory results.—*Ohio Educational Monthly.*

AMATEUR TEACHING.

There is too much of it in the profession, far too much of it; but the question is, how shall we rid ourselves of it. Every year scores of young men and women enter the ranks of the profession with no love for it, no conception of its noble nature, its grave responsibilities, its lofty possibilities. All they know or care about it is, that through its channel they will gain a certain number of dollars per month. If they are men, they expect to use these dollars in fitting themselves for a more lucrative profession than that of the pedagogue, or in opening a path for themselves into the golden halls of commerce; if they are women they will use their small portion of wealth in decorating their persons, so as to render themselves more ready of sale in the matrimonial market. We wot of a certain large city, which we shall not name, from whose high school there graduate annually two or three score of young ladies, daughters of citizens of various grades, from that of the hod-carrier to the judge. The majority of these damsels supplement their school course by a few years in teaching, for, novices that they are, they can rely upon parental political influence—even the hod-carrier may have a dozen votes in his pocket, you know—to appoint them in preference to old and well-trained teachers from other places. The average duration of their pedagogical life is one and one-fourth years. "We understand the case," said a cynical director, who was so indifferent to his political preferment as to object to this mode of recruiting the ranks of teachers—"these young ladies regard the teachers' position as the most convenient stepping-stone to the altar. Many of them avow that they only teach for the sake of securing the desired *trousseau* to consummate an engagement made during their school-days."

Now, no arrangement could be more desirable and convenient for the young ladies, we admit. And, in addition to its convenience, it probably did them a great deal of good. Very likely they learned more in that one year's practice in teaching, than in two years' work in the high school. But what about the schools given up to this plan of amateur teaching? Well, they were just such schools as a plan of this sort could secure anywhere, backward in their studies, unruly and turbulent.

We never saw but one very striking example of the evil of amateur teaching, but we have no doubt many others exist. And it is high time that some effective effort was made to diminish the number of amateurs in the ranks of teachers. If parents or school officers will make no such effort, it must be inaugurated by those teachers who are not amateurs. Indeed, we wonder that the instinct of self-preservation has not long ago forced good teachers into an anti-amateur movement. For these know well that it is the amateurs that keep down the rate of wages in the profession, and drag down its standard. They not only add to it nothing that can be desired, but they rob it of the honour and emoluments which are its just due, and which, but for the existence of amateurs, it might long ere this have received.

Practical Department.

THE SCHOOL-ROOM.

THEORY AND PRINCIPLES OF TEACHING.

Teach but one new thing at a time, and always in connection with what the child already knows, that each fact learned may be an additional link in his chain of information.

Give occasionally one minute to the prompt utterance of the sounds of the letters; one to drawing map of the township, county or state: one to repeating maxims, verses, or choice selections in concert.

Let singing have some time each day, and have physical exercises occasionally.

Cultivate the voice, eye, ear, and hand; avoid loud, harsh speaking or singing.

Let about half the spelling in the different classes be in writing.

Give the falling inflection when pronouncing words for spelling; have pupils lower the voice when spelling.

Have pupils rely on themselves when studying and reciting; don't hear a lesson unless it has been well studied; primary classes may be excepted from this rule. *Always give short lessons.*

Give object lessons frequently to your schools; use objects often

when teaching arithmetic, and sometimes use them in geography and grammar classes.

Give instructions frequently in morals and manners; use the dictionary, school apparatus, etc.

Avoid reciting for a pupil or class; it will do the pupil no more good than to eat his dinner for him.

Teach your pupils how to study and to think systematically and connectedly.

In orthography, teach the elementary sounds and their representatives. One cause of so many poor spellers is a lack of familiarity with the sounds of the language, and the principles and rules of orthography. Teach the pupils to spell phonetically; call especial attention to substitutes, as *e* for *a* prey, they, etc.; to silent letters and syllabication.

In reading, the teacher should have a variety of methods; he should not sit as a judge merely, but as a teacher, that the pupil's voice, understanding, and perception may be cultivated and developed; that the gems of thought, the beauties of language, and the golden truths of the authors may not pass unnoticed or unappreciated. In no branch of study is a teacher more needed than in reading. One sentence well read is better than any number of pages read without regard to the natural tones of the voice, to emphasis, inflections, and modulation.

In arithmetic, the principles should be distinctly stated, and problems selected as illustrations, remembering that one principle well understood will be of more value to the class than a hundred problems solved without reference to principles. Drill the class, if possible, on each principle, both by the oral and written methods, and often take for illustrations examples other than those found in the regular text-books.

In teaching geography, begin at home, and as you widen the field teach less in detail. Care should be taken to get the locality of every place well fixed in the mind. Map drawing, topical recitations, historical events, are prominent points for the teacher's consideration.

In grammar, commence with language lessons, sentence building, and changing sentences and expressions. The art should precede, or at least be taught with, the science of language.

The theory taught should be supplemented by actual practice. Much drill in writing sentences and original productions, with thorough criticism, is indispensable to the pupil who acquires ability in the correct use of language.

The topical method of teaching history is considered the best. Draw an outline map on the board and write the principal events and dates, connect geography and history as much as possible. Teach the connection that one event has with others, and if possible get at the reason.

In teaching physiology, begin as a carpenter does to build a house, with the frame (skeleton) and build upon that the different systems, as the muscular system, the nervous system, and detail the members of the class, as a master builder would his assistants, to explain and discuss appropriate parts.

To teach is to impart knowledge—to exhibit impressively. Teaching is more than merely telling or communicating. It means to inculcate, to impress by frequent repetition, to urge on the mind, to lead out and develop.

The true teacher in any branch of study or with any class will observe the following statements:

1. See that the lessons are properly assigned.
2. See that pupils in reciting or discussing a subject use proper language.
3. See that the recitations are as nearly perfect as possible under existing circumstances.
4. Teaching pupils to draw their own conclusions properly stands above almost any other consideration.
5. Be thoroughly in earnest, and your energy and spirit will cause interest and enthusiasm in the class.
6. Grade your school, for by it you will be able to reduce the number of recitations, give more time to each recitation, favour more thorough work, systematize the operations of the school, and improve the discipline.
7. Classify according to scholarship, natural ability, and age. Make reading and arithmetic the basis of your classification.
8. Use school records to furnish a history of the school and of each individual, to indicate to the teacher when he should put forth greater effort, to furnish information to parents, and to furnish educational statistics.

In making your records, mark only absentees, by making a dot in the left upper corner of square, for tardiness in the forenoon, and in right upper corner, for afternoon.

We cannot do better than to give the principles of the art of teaching, as found in the didactics, by Prof. J. H. Thompson, in the course of study for institutes for 1878.

Principles to be thoroughly understood by every teacher:

1. Activity is the law of childhood, accustom the child to do, and educate the hand.
2. Cultivate the faculties in their natural order, first *form* the mind, then *furnish* it.
3. Begin with the senses, and never tell a child what he can be led to discover readily for himself.
4. Reduce every subject to its elements, one difficulty at a time is enough for a child.
5. Proceed step by step, be thorough; the measure of information is not what the teacher can give, but what the pupil can receive.
6. Let every lesson have a point, either immediate or remote.
7. Develop the idea, then give the term, cultivate language.
8. Proceed from the known to the unknown, from the particular to the general, from the concrete to the abstract, from the simple to the difficult.
9. First synthesis, then analysis, not the order of the subject, but the order of nature.
10. Fasten every principle by frequent repetition.

The objects of recitation are, to find the daily standing of the pupil, to create self-dependence, to estimate the daily progress of the pupil, to direct the pupil's mode of thought and study, to keep proper incentives before the pupil, to aid in discipline, to add new matter, to impart moral truth, and, in primary classes, to instruct, to drill, and to test.

Questions should be varied, logical, be given to pupils in a promiscuous order, be put rapidly, and should not hint the answer.

Moral teaching should not be neglected. Direct instruction may be given in a few set lectures, anecdotes or biographies of the great and good, at recitation time, in reading lessons, etc., or from books on morals and manners. Indirect instruction is given by the personal influence of the pupils on each other.—*From Iowa Course of Study.*

ADVICE TO TEACHERS.

Superintendent A. B. Stutzman, of Illinois, made the following suggestions to his corps of teachers at the teachers' meeting on Monday evening, Jan. 10, and commented upon and explained each of them:

1. All exercises should begin and conclude promptly on time.
2. Each teacher should write the order of exercises on the board and adhere to it strictly.
3. Teachers should be uniform in their discipline from day to day. Teachers that are very strict sometimes and rather indifferent at other times will not succeed as well as though they were uniform and constant.
4. Teachers should discriminate carefully between firmness and severity. Firmness promotes good order, while undue severity thwarts it. Penalties and punishments should always be commensurate with the offence.
5. Teachers should acquaint themselves, so far as possible, with the influences that surround pupils while out of school.
6. Teachers should have proper regard for the wishes and suggestions of the parents.
7. Teachers should see to it that their rooms are properly ventilated and warmed, under no circumstances should pupils be exposed to currents of cold air or otherwise be exposed.
8. Teachers should, under all circumstances, protect the rights of each pupil; promptly attend to all misdemeanors or other irregularities; they should be careful that pupils do not violate the laws of health while under their care; they should endeavour to inculcate habits of industry, obedience, regularity and sound morality—in short, they should spare no efforts to develop good characters.
9. As a rule pupils should not be detained at recess and after the close of the afternoon session. The detentions should be rare exceptions to the rule. Pupils should be detained after the close of the forenoon session.
10. Teachers should aim at thoroughness in all their instruction. They should carefully attend to the individual wants of pupils so far as possible.
11. Teachers should honestly discharge all their duties and not worry over the past; they should be constant students; always make thorough preparation for each day's work.

12. Teachers determine the manner or way of study of the pupils by their manner or way of hearing recitations.

13. Teachers should always have a definite end in view in hearing a recitation, and they should spare no effort or preparation necessary to bring about such end or result. They should instruct pupils how to study and prepare their lessons, and never rest satisfied unless the pupils thoroughly understand the subject matter of the lesson.

14. Teachers should take special pains to encourage and brace up the diffident and easily embarrassed pupils, and restrain pupils that are too forward.

15. Teachers that are thoroughly in earnest rarely find time or occasion to occupy the chair while in charge of the school.

16. As teaching produces constant strain on the nervous system, it is highly important that teachers have plenty of sleep. Rest soothes the nerves, invites cheerfulness, improves the disposition, promotes patience, and is absolutely essential to good health. On the other hand, sleeplessness or the want of the required amount of rest tends to make one irritable, impatient, easily annoyed, and unfits one to do good work in the school-room.

17. In conclusion, allow me to express the hope that we may all realize the responsibility resting upon us as individual teachers. May we all be kind, generous, firm, faithful, honest and true to those who receive instruction from us. Let us all carefully study self, and thus improve ourselves and become better qualified for the discharge of our duties. Let us thoroughly acquaint ourselves with the subject matter to be taught. And, furthermore, it is essential that we constantly study human nature, that we learn to appreciate the varied wants of children and the difficulties with which they have to contend. It we do this faithfully, it will increase our sympathy and kindly feelings toward them, and enable us better to become real helpers to those who are dependent upon us.—*American Educator.*

WHAT SHALL WE DO WITH OUR SONS?

An article has been going the rounds of the papers for some time, entitled: "What Shall We Do With Our Daughters?" while nothing is said of the rearing of our sons. It could be inferred that no rules are necessary, but not so. The following seem to be silently acknowledged as the rules for the present generation:

Teach them to look upon a trade as a disgrace.

Teach them that poor clothes, honestly obtained, are to be scorned.

Teach them that they are to consider themselves above any kind of manual labor.

Teach them the art of loafing in all its perfection; smoking, impudent staring, etc.

Teach them how to get in debt at the tailor's and leave their parents to pay. Do not let them consider the expense and sacrifices necessarily made for their college course.

Teach them to forget their manners while at home. Let them be cross and surly to home folks, extremely polite to company.

Talk to their sisters about expenses; meanwhile teach them to seek the company of expensively dressed girls, and when their bills come in for tobacco, and other little vices, pay them without a word; finally, let them marry, and live in style at their mother-in-law's. —*Exchange.*

EXCESSIVE ORDER—Excessive good order is a feature of many of our public schools. This does not proceed from efficiency, but from the lack of it in the principal or teacher. A man or woman of ability can afford to unbend occasionally, but a stupid person must assume a mysterious air and repress all exhibitions of human feelings in himself, his assistants, and his pupils. A man not secure in his position, not confident of his own power, is obliged to check the freedom of intercourse from his subordinates, lest a spontaneous interchange of views lead to a criticism and disparagement of his ability and methods. A strong man can afford to be easy, but a weak one, in self-defence, must be tyrannical. The effect of such repression is an icy gloom in the school incompatible with natural developments and enthusiastic progress. Mind attempting to grow in such an atmosphere, is like a potato-vine in a cellar. Sunshine is the inspiration of health, and honesty is the sunshine of mind upon mind. There can be no honesty in a small, weak mind, which has usurped the position of a large, strong one. The muscular arm can handle with vigor and safety what would be shattered by the grasp of distrust or palsy. As honesty is the sunshine, so good nature is the warmth of the mind, and it is only a good, strong mind that can shed both on the sensitive, responsive, and fruitful capabilities of the school.—*National Journal of Education.*

DRAWING.

DESIGN.

The object of this Exercise is—

To give practice in the arrangement of units alternating about a centre, or practice in vertical repetition, or in repetition to cover a surface.

In teaching original designing, one of the first principles to explain is that the opposite parts of a pattern correspond; that if any element in a pattern be selected another will be found exactly like it by going *across the centre*, to the similar position on the other side. Whateverthe pupil draws in one corner of a pattern, he must draw in the corresponding corner on the other side, across the centre.

Alternation around a centre should not be used unless the enclosing form has at least six axes of symmetry. For example, it would not be well to draw simply the diagonals or simply the diameters of a square, and alternate units around the centre on these lines. Neither would it be well for a beginner to alternate units in a circle on only two diameters at right angles to each other.

In the annexed illustrations, three examples of rosettes with units alternating about the centre are given as suggestions to the teacher for the illustration of alternation. Note the characteristics of the three rosettes. In Fig. 2, the enclosing form, a square on its diagonals, and the alternating units, are rectilinear, and the central form is curvilinear. In Fig. 5, the enclosing forms and the alternating units are curvilinear, while the central form is rectilinear. In Fig. 8, the enclosing form is rectilinear, the central form is curvilinear, and the alternating units are made up of both straight and curved lines. These similarities are pointed out to show that variety in design may be attained not alone by the use of entirely new elements, but also by a new arrangement or by a slight variation of forms previously used.

DIRECTIONS.—*Fig.* 2. Draw a square on its diagonals. Draw its diameters. Connect the ends of these diameters to form a second square. Quadrisect the sides of the first square. Connect the points of quadrisection nearest the left end of the horizontal diagonal by a vertical line. Connect the ends of this vertical with the centre of the square by oblique lines. Quadrisect the vertical and complete the unit. On the other semi-diagonals as axes, draw similar units.

Quadrisect the sides of the second square. Connect the outer points of quadrisection on each side of the square with the centre of the figure. Bisect the semi-diameters of the second square. Through the points of bisection draw a circle Bisect the radii of this circle and draw a second circle through the points of bisection. Draw an enclosing square about the figure.

Fig. 5. Draw a vertical and a horizontal line, equal in length and intersecting at their centres. With these as diameters, draw a circle. Connect the ends of the diameters to form a square on its diagonals. Draw the diameters of the square. Connect the ends of the diameters to form a second square. On each side of this square as a base, draw a semicircle curving outward. On each diagonal of the first square, mark off a short distance from each end. Draw four semicircles, passing through the centre of the circle and terminating in the points just made.

Divide the sides of the first square into three parts, making the two outer parts equal and longer than the central part. From these points draw oblique lines to meet on the semi-diameters of the first square, at a very short distance from the centre of the figure. Trisect each semi-diameter of the first square, and draw the curves of the smaller units to intersect on the semi-diameter a little nearer the centre of the figure than the outer point of trisection. Bisect the semi-diameters of the second square and connect the points, forming a third square. On the diagonals of this square, mark a distance from each end a little less than half a semi-diagonal. Connect the points, making a fourth square. Draw an enclosing circle

about the figure.

Fig. 8. Draw a square, its diagonals and diameters. Extend its semi-diameters until they are equal in length to the semi-diagonals. Connect the outer ends of the extended semi-diameters to form a second square,—a square on its diagonals. Quadrisect the semi-diagonals of the second square. Bisect the outer fourth of each semi-diagonal and connect the points of bisection by oblique lines, forming a third square. Bisect the second outer fourth of each semi-diagonal of the second square and through the points of bisection draw horizontal and vertical lines to make a fourth square. From the points of intersection of the third and fourth squares draw curves concave to the semi-diagonal and meeting on it near the centre of the figure, thus making the larger units.

Place points on the sides of the fourth square a short distance outside the intersections of the third and fourth squares, and from these points draw the curves of the smaller units, not quite parallel to the curves of the larger units. Draw a central circle, having a radius equal to one fourth the semi-diagonal of the second square. Draw an enclosing line about the figure.

DIRECTIONS. — *Vertical Borders.* In drawing a vertical border on the board, draw first two indefinite vertical lines, about one foot apart. Connect the upper lines by a horizontal. Draw horizontals dividing the space into squares. After having thus obtained as many squares as desired, erase what remains of the vertical lines below the squares. Complete the borders by adding outer vertical lines, one on each side. The directions which follow are for one square in each border except those for Fig. 9.

Fig. 1. The unit of the figure covers two squares, but directions for one square will be sufficient. Draw the vertical diameter. Connect the upper angles of the square with the lower end of the vertical diameter of curves convex to the diameter. Divide the lower side of the square into three parts, making the outer parts equal and slightly shorter than the central part. Connect the upper angles of the square with the points of division by curves convex to the vertical sides of the square. Connect the lower angles of the square with the points of division by curves concave to the lower side of the square.

Fig. 3. Draw the diagonals and diameters of the square. Through the ends of the diameters draw a circle. Trisect each half of the vertical diameter and of the upper and lower sides of the square. From the upper points on the vertical diameter, draw oblique lines to the nearest point on the upper side of the square. From the lower point on the vertical diameter, draw oblique lines to the nearest points on the lower side of the square. On the remaining part of the vertical diameter as an axis, draw the unit of repetition.

Fig. 4. Draw the diagonals and diameters of the square. Divide the semi-diameters into three parts, making the central part a little longer than the outer parts which should be equal. Set off the same distances from the centre of the square on each of the semi-diagonals. Connect the outer points by curves concave to the centre of the square, similar to those of the copy. Through the inner points draw a circle. Within this draw a second circle, having a radius one-third that of the outer circle.

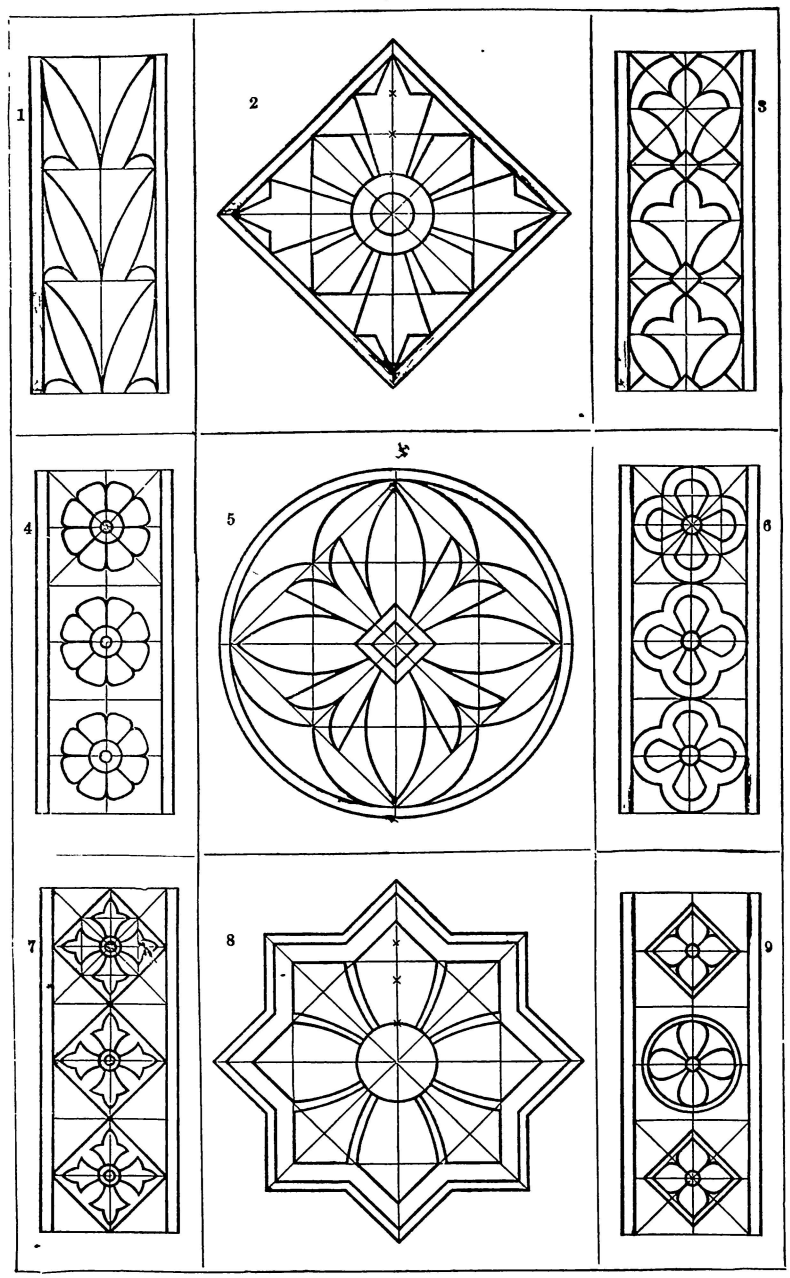

Fig. 6. Draw the diagonals and diameters of the square. Bisect the semi-diagonals and connect the points of bisection to form a second square. On each side of the second square as a base, draw a semicircle curving outward. Quadrisect the sides of the second square, and from the two outer points of quadrisection on each side of the square, draw oblique lines to the centre of the figure. Connect the two outer points of quadrisection on each side of the square by the curve of a semicircle curving outward. Trisect the diameters of the second square, and through the points of trisection draw a circle.

Fig. 7. Draw the diameters and diagonals of the square. Connect the ends of the diameters to form a square on its diagonals. Connect the ends of the diameters of the second square, forming a third square. On each semi-diagonal of the second square, draw the unit of repetition, noting that it should not touch the square. Trisect the diameters of the third square, and through the points of trisection draw a circle. Within this draw a second circle, having a radius one-half that of the first.

Fig. 9. *First Square.*—Draw the diagonals and diameters of the square. On the diameters, mark off a short distance from the ends and connect the points, making a second square,—a square on its diagonals. On the diagonals of the second square mark off a short distance from the ends and connect the points, making a third square. Trisect the sides of the third square. Quadrisect the semi-diameters of the third square. From the points of trisection draw curves concave to the diagonals, and meeting on the diameters at the outer points of quadrisection. Through the points of quadrisection nearest the centre, draw a circle.

Second Square. Draw the diameters of the square. Mark points on the diameters a short distance from the ends. Draw a circle through these points. Within this draw a second circle having a slightly shorter radius. On each semi-diameter of the second circle as an axis, draw the ovoid unit. Draw a central circle having the same radius as that of the circle in the first square of the border.—*Teachers' Manual, L. Prang & Co.*

Notes and News.

ONTARIO.

Those interested in educational work in Milton are agitating for the establishment of a High School in that town.

A Teachers' Association has been formed in the County of Dufferin, and the following officers for the ensuing year have been appointed :—Mr. N. Gordon, P.S.I., President; Mr. A. Steele, B.A., Vice-President; and Mr. F. B. Denton, Shelburne, Secretary-Treasurer. The Association was organized on the 25th of June, and the first regular meeting will be held in October next.

Mr. J. Dearness, P.S.I., of E. Middlesex, states in his report to the School Board :—"It will be gratifying to the rate-payers that I am able to report that, without decrease in the means of public education or in the efficiency of their use, the total expenditure for all school purposes shows a reduction for the year 1880 of $1,852.90."

At the Perth Union Teachers' Convention, it was announced by Mr. Moir that arrangements had been effected by which teachers and members of the Association could procure return tickets to any place on the Grand Trunk Railway during holidays at one and one-third rates.

An attractive and imitative feature has been introduced into the Renfrew Model School during the last year under Mr. E. A. Stevens, Principal. About fifty frames consisting of mottoes, chromos, anti-tobacco pledges, etc., decorate the walls of the building, while a summer house 30 ft. long, 16 ft. wide, has been erected for the girls. Among the mottoes may be mentioned the following as being particularly appropriate: Labor has sure Reward, Peace be unto this House, Do Right and Fear Not, Knowledge is Power, Well Begun is Half Done, Learn to do Good, The Lord will Provide, With Joy We Greet You, Kind Words can Never Die. The first motto that arrests the visitor's eye on entering any of the departments is Welcome, while the last one on taking his exit is, Call Again. At the recent Public Examination the visitors were amazingly surprised to find the ceilings of the several departments ornamented with hanging baskets of artificial flowers, while the windows and teachers' desks were abundantly furnished with numerous pots of growing flowers, tastefully arranged. Some of the mothers expressed their willingness to return if possible to their school days in case they could attend such a school. The pupils during the recitations performed their parts readily and praiseworthily. Marked harmony seemed to exist between teachers and pupils, due no doubt, in part at least, to the improvements in the surroundings. This is a push in the right direction. Children require pleasant school rooms as well as attractive homes to encourage them in their youthful efforts, and to make their first difficulties less arduous. All these things please the youthful eye, and cultivate a taste for the beautiful in nature and art. The highest credit is due to Mr. Stevens, Head Master, for initiating a movement which may be imitated with pleasure and profit in the schools of every class in the Dominion.

MANITOBA.

The Council of the University of Manitoba met Tuesday, June 21st, at 4 p.m., in the city hall, for the purpose of conferring degrees, presenting medals, and otherwise publicly honouring those students who had been successful in their efforts to acquire the right to such distinction. His Honour, the Lieutenant-Governor was present. On his arrival at the door, accompanied by his aide-de-camp, he was met by the Chancellor of the University and other members of the Council, who conducted him to his seat on the platform, to the right of the Chancellor. Around him were seated His Grace the Archbishop of St. Boniface, Hon. Joseph Royal, M.P., Mr. Justice Dubuc, the professors of St. Boniface College, Rev. W. Cyprian Pinkham, Rev. James Robertson, Consul Taylor and others, including the candidates for degrees. On the Chancellor's left were seated Hon. A. G. B. Bannatyne, Dr. Cowan, Mr. D. Macarthur, Rev. Canon O'Meara, and Rev. Mr. Matheson, of St. John's College, Rev. O. Fortin, Ven. Archdeacon Cowley and others—including the candidates for *ad eundem* degrees. In the audience were observed a considerable number of prominent citizens, the ladies interested in the cause of higher education being also well represented.

The Chancellor of the University, the Most Reverend the Metropolitan of Rupert's Land, took the chair, and addressed His Honour, the Lieutenant Governor in an eloquent speech in which he dwelt on the rapid and substantial improvement in the work of the University; the high standard of the examinations, consisting of eighty-one sets of papers and the success which the students, thirty three in number, achieved; the large proportion of those examined who have succeeded and were entitled to degrees with honours; and the inestimable value of denominational colleges, furnishing residence and supervision to the students. He spoke in terms of profound regret of Professor Forget, late director of St. Boniface college, whose lamented death left a blank in their chief workers. He urged the friends of the University to exert themselves to procure a grant of land from the Dominion government to aid their increasing demands, and he hoped the young University might grow with the growth of this great country, and be able to draw around it the confidence and regard of the people. His Honour, the Lieutenant Governor made an appropriate and cheerful reply in English and French, which was heartily applauded. The registrar, Mr. Rice M. Howard, then read the report of the recent examinations as adopted by the Council of the University, and announced the names of the successful candidates for degrees, medals and other honours.

The names of Messrs. McLennan and Kennedy, of St. John's College, having been announced, these gentleman came forward and were formally presented to the Chancellor, by Rev. Cano O'Meara as being entitled to receive the degree of B.A. with classic honours, whereupon they knelt in turn before the Chancellor, who, according to the prescribed Latin form, conferred upon them the distinction named.

Messrs. N. Betournay and Haverty, of St. Boniface College, were next presented by Rev. Dr. Lavoie, and received the degree of B.A. with honours in Moral and Mental Science.

Mr. Polworth, of Manitoba College, received the degree of B.A. with Natural Science honours. He was presented to the Chancellor by the Rev. Mr. Robertson.

Mr. Munro, of Manitoba College, was presented by Rev. Mr. Robertson and admitted to the ordinary degree of B.A.

The following gentlemen, graduates of other colleges were then admitted to *ad eundem* degrees :—A. M. Sutherland, B.A., University of Toronto; A. C. Killam, B.A., University of Toronto; N. Agnew, M.D., Victoria University; W. R. Sutherland, M.D., Victoria University; Heber Archibald, B.A., University of Toronto; T. S. Kennedy, B.A., University of Trinity College, Toronto; W. H. Culver, B.A., Victoria University; J. M. Macdonnell, B.A., University of Queen's College; J. A. M. Aikins, M.A., University of Toronto; P. A. Macdonald, B.A., University of Queen's College.

The following gentlemen being unavoidably absent, were admitted to *ad eundem* degrees by proclamation of the Chancellor;—R. Bourne, M.A., Trinity College, Dublin; A. W. Ross, B.A., University of Toronto.

Mr. Fawcett (non-collegiate student) also received the degree of B.A., with natural science honours, by proclamation of the Chancellor.

Mr. N. Betournay, of St. Boniface College, received the Governor-General's silver medal for moral and mental science honours. The Chancellor in complimenting him upon his success referred to the fact of his having received the same distinction last year.

Mr. McLennan, of St. John's College, received the honor of the University silver medal, and Mr. Kennedy, of the same college, the University bronze medal for classical honours.

Mr. Polworth, of Manitoba College, received the distinction of the silver medal for natural science honours.

Mr. Bird, of St. John's College, as being first in the combined subjects of mathematics and botany, and also first-class in all the subjects, received the Governor-General's bronze medal.

The Chancellor then pronounced the council adjourned.

The Council of the University of Manitoba has recently sustained a very severe loss, through the death of one of its most prominent members, the Rev. Professor Forget Despatis, director of Manitoba College. The deceased gentleman, who was a general favorite, was Chairman of the Board of Studies. At the meeting of Council, held shortly after his death, the Chancellor referred in touching language to the loss, and proposed the following minute, which was unanimously adopted, viz: "That the council in giving expression to the deep regret with which it has heard of the death of the Rev. Professor Forget Despatis, Director of St. Boniface College, desires to bear testimony to the great services Professor Forget rendered to the University from its foundation, not only by his unwearied and disinterested efforts on its behalf as a member of the council, a member of the board of studies, and a member of the board of examiners; but also by having largely promoted harmony and united action by his kind and courteous manners. The council desires to record its deep sense of the great loss the University has suffered in his re-

moval." His Grace the Archbishop of St. Boniface, who was visibly affected, thanked the council for this mark of its esteem.

The Rev. Professor A. A. Cherrier, has just been appointed director.

The work on the new Manitoba College is being pushed forward with great vigor.

An addition is being put to St. John's College, and the work of enlarging the public schools of Winnipeg has begun.

The St. John's College Ladies' School is to re-open on the 8th of August. Miss Spencer, who has made a splendid reputation as a public school teacher, has accepted a position on the College staff.

A movement is on foot in Winnipeg to establish a school of art and design for the Province. Mr. Leggo, Master in Equity of the Court of Queen's Bench—an active sympathiser with every form of popular education, brought the matter before the public. A meeting was held a day or two ago, at which the Rev. W. C. Pinkham, Supt. of Education, and Messrs. Leggo, Biggs, Rowan, and Neison were appointed a Committee, to get the matter into shape, and up to the present time they have received a great deal of encouragement. The Board of Protestant school trustees, of the city of Winnipeg, are likely to take the question up, and materially help to solve it.

The first term in the public schools has just closed. Almost everywhere there is the most gratifying progress observable; and, throughout the province, there is a general feeling of pride in, and satisfaction with our public school system, the benefit of which is being extended as fast as possible to those portions of the North West Territories which have lately been taken into Manitoba. The examination of teachers commences on Tuesday, August 2nd.

At a meeting of the Board of Education, held yesterday, the following resolutions were adopted on the suggestion of the Supt., viz:

1st. "That first-class certificates granted in the Province of Ontario, under the new regulations relating thereto, and such other certificates, obtained elsewhere, as the Board many consider equivalent, may be permanently endorsed by the superintendent, in which case they shall entitle the owners to all the rights and privileges enjoyed by the holders of first class provincial certificates."

2nd. "That every graduate of the University of Manitoba who furnishes to the Board satisfactory evidence of his knowledge of the science of education and art of teaching, and of the management and discipline of schools, shall be entitled to a first-class certificate (if an honor man, grade A; if a passman, grade B), and every undergraduate of the said University who has passed the previous examination, and who, being eighteen years of age, furnishes to the Board satisfactory evidence of his knowledge of the art of teaching, and of the management and discipline of schools, shall be entitled to a second-class certificate (if an honor man, grade A; if a passman grade B); provided always, that these certificates shall be provisional, until the parties receiving them can show that they have taught with success for three years, and one year, respectively, and provided also, that the usual certificate of good moral character has been furnished."

NOVA SCOTIA.

The closing exercises, technically known as the Eucenia, of the University of King's College, were held at Windsor, on the 30th of June, and attracted more than usual interest. The annual University Sermon was preached at 10 a.m., in the Parish Church by the Rev. L. Ambrose, A.M., Rector of Digby. The sermon was a somewhat severe arraignment of the alleged secular and materialistic tendencies of the age.

Among the visitors present at the Eucenia in the College Hall were His Lordship Bishop Binney, Visitor of the University, His Excellency Vice-Admiral McClintock, the Governor of the College, Dr. Allison, Supt. of Education, the Rev. T. J. Daly, A.M., Provincial Examiner, and other prominent educationists. The Eucenial oration of the President, Dr. Dart, has secured more general notice than ordinarily falls to the lot of the formal deliverances of university presidents. It was a calm, temperate, comprehensive discussion of the College question in Nova Scotia, and in particular of the condition and prospects of King's College. Even those who question the accuracy of some of the learned president's conclusions, commend the candour and thoroughness of his treatment.

The following scholarships and prizes were announced:

Cogswell Scholarship, Rev. F. W. Vroom, B.A.; *Binney Exhibition*, H. M. Stamer; *McCawley Hebrew Prize*, Rev. F. W. Vroom, B.A.; *Bishop's Prize*, W. B. King; *Divinity Prize*, N. R. Raven; *Almon Welsford Testimonial*, F. W. Nicolson; *General Williams Prize*, H. S. Hensley; *Stevenson Scholarship*, F. W. Frith, E. A. Harris.

Messrs. E. A. Harris, F. W. Frith, L. H. Morris and T. F. Draper (students) then acted a part of Aristophanes' play, *The Acharnians*, the language and costumes being the same as that of the old Greek stage. The rendition was highly creditable to the actors, and immensely amusing to the audience. Mr. W. B. King, of Charlottetown, then delivered the valedictory.

The Principal announced that Richmond County would be the County for the history of which the Akins Historical Prize would be given for the coming year. The following degrees were then conferred, with appropriate ceremonies:—

D. C.L.—On Vice-Admiral Sir Leopold M'Clintock. M. A.—On Rev. John Padfield, and Rev. O. M. Grindon (absent.) D.D.—On Rev. D. W. Fitzgerald (of Charlottetown.) B. A.—On Messrs. W. B. King (Charlottetown), A. Curry (Windsor), Rev. Geo. Butler (Chester), A. E. Silver (Halifax) and Rufus Curry (Brooklyn.)

Speeches appropriate to the occasion were delivered by Vice-Admiral McClintock, Hon. Senator Almon, His Lordship Bishop Binney, and the Superintendent of Education. An elegant collation concluded the exercises of the day.

The Associated Alumni of King's College decided by a vote of 8 to 7 *not* to discuss the Consolidation question with the Alumni of sister colleges.

The second annual meeting of the Teachers' Association of District No. 7, was held at North Sydney on Thursday and Friday, June 30th and July 1st. The President, M. J. T. McNeil, Esq., Inspector of Schools opened the meeting with a short and highly appropriate address. After the calling of the roll the Secretary read the minutes of the last meeting, which were confirmed. The following are the officers for the current year:—President, M. J. T. McNeil, Inspector; Vice-President, D. R. McLellan; Sec. and Treas., B. McKittrick; Executive Committee, E. T. McKeen, W. Haggarty, Miss S. F. Brown, Miss B. M. Ormond, with the officers of the Association. The name of the Association was changed to the "Teachers' Association of District No. 7." Mr. T. S. McGregor gave an illustrative lesson on Algebra, detailing some excellent methods of dealing with difficult surds. Mr. M. Matheson's paper on "Parent, Child and Teacher," by its suggestiveness elicited an animated discussion, participated in by Messrs. Kennedy, McKinnon, and Miss Simpson; Miss B. Ormond's paper on "Geography for Beginners," Mr. J. D. McNeil's on "The Successful Teacher," Mr. D. K. McGillis on "Physical Culture," Miss L. A. McKenna's on "School Rewards," Mr. E. T. McKeen's on "Practical Education," Mr. Haggarty's on "Text Books," and Mr. J. W. McLellan's on "Like Teacher, like School," were all good, and all drew forth many practical remarks. A number of ladies and gentlemen honoured the Association with their presence. A telegram was read from the Superintendent of Education, expressing regret that pressing duties prevented him from attending. This is one of the most vigorous Associations in Nova Scotia.

The closing exercises of the Provincial Normal School, at Truro, took place on the 12th of July. As the Provincial Educational Association was to convene on the following day, the audience embraced large numbers of Inspectors and Teachers not generally present on such occasions. The Hon. S. Creelman, Commissioner of Mines and Public Works, represented the Provincial Government, and Dr. Allison, Superintendent of Education, the Central Educational Department. Among distinguished strangers noticed present was the Rev. Dr. Kemp, Principal of the Ladies' College, Ottawa. The appointed exercises consisted chiefly of lessons taught by pupil teachers, among whom were Misses Faulkner, Robbins, McKenna, Coleman, Martell, Findlay, and Mr. H. H. Eaton. The Governor-General's silver medal was won by Mr. W. L. B. Hart, of Guysboro, and the bronze medal by Miss Clara Calkin, of Kentville. The diplomas issued embrace six of Superior rank, fifty-two Good, and thirty Fair. The winners of the first were Miss Martell, of Cape Breton County; Mr. Eaton, and Miss Calkin, of King's; Misses Faulkner and Kirkpatrick, of Colchester; and Miss Robbins, of Yarmouth. The total number of enrolled pupil-teachers has been one hundred and forty-two. Addresses were delivered by the Principal, Mr. Calkin, who announced certain revisions of the regulations of the Institution, the Commissioner of Mines, and the Superintendent of Education. The work of the past year has been in a high degree successful.

The second annual session of the Provincial Educational Association was convened by the Superintendent of Education at Truro, on Wednesday, the 13th of July. A. McKay, Esq., Professor of

Mathematics and Science in the Halifax High School, was re-elected Secretary, and B. McKittrick, Esq., B.A., Principal of the Sydney Academy, Assistant Secretary. The Executive Committee was elected as follows :—Inspector Condon, Principal McKay (Picton) the Secretary, Professors Hall and Eaton, and Misses Logan and Russell. Next month's notes will contain a detailed report of proceedings.

. Mr. L. N. Archibald has resigned the principalship of the Albro Street School, Halifax, to engage in mercantile life. Mr. Archibald's success as a teacher has been very marked.

Visitors at the Provincial Normal School have been most favourably impressed with the progress made in industrial drawing under the faithful and skilful instruction of Miss O. M. Smith.

The recently published Calendar of Dalhousie College, offers for competition at the ensuing Matriculation Examination, five exhibitions and thirteen bursaries, all tenable for two years; the exhibitions being of the value of $200 per annum, and the bursaries $150. These are among the gifts to Dalhousie of George Munro, Esq., of New York.

Mr. H. S. Bridges, Head Master of the St. John, N. B., Grammar School, has been selected by the Senate of the University of New Brunswick, to fill the chair of Classical Professor, rendered vacant by the removal of Prof. Fletcher to another Province.

Readings and Recitations.

JACK CHIDDY.

A TRUE INCIDENT OF THE RAIL.

Brave Jack Chiddy! Oh, well you may sneer,
For the name isn't one that sounds nice in the ear;
But a name is a sound—nothing more—deeds are best,
And Jack had the soul of a man in his breast.

* * * * *

But the story? you say. Well, I'm coming to that,
Though I wander a little—now, where was I at?
Let me see. Can you catch, shining round and clear,
The mouth of the Breslington tunnel from here?

You see it? Well, right on the bank at the top,
When stacking some blocks, all at once, down the slope
A huge slab of stone from the rest shore its way,
And fell down on the up-line of metals and lay.

One sharp cry of terror burst forth from us all,
As we saw the huge mass topple over and fall.
We stood as if bound to the spot, dumb of speech,
Reading horror and doubt in the faces of each.

Then one of our mates snatched a glance at his watch,
Gave a start and a look that made each of us catch
At our breath, then a cry, that thrill'd our hearts through—
"My God! the 'Flying Dutchman' is overdue!"

Hark, straight from over the hill we could hear
A dull, dead sound coming faint to the ear,
Then a short, sharp whistle that told with its blast
That the "Dutchman" was into the tunnel at last.

And there on the rail lay that huge mass of stone,
And the "Dutchman" behind coming thundering on;
In a minute or less he would come with a dash,
And a hundred lives would be lost in the crash.

"Now, for your life, Jack!" for Chiddy had flown
Down the bank, and three leaps brought him close to the stone.
Not of his own life, for wife and child's sake,
Thought he, but the hundreds that now were at stake.

'Twas the work of a moment. With terrible strength
And a heave of the shoulder the slab moved at length—
Slipp'd clear of the rail—when, half-muffled in smoke,
From the mouth of the tunnel the "Dutchman" broke.

There was one sharp whistle, a roar, and a crash
Of wheels ringing clear on the rail, and a flash
Of coiling smoke, and a glitter and gleam
Of iron and steel, and then down fell the steam.

Not a breath could we draw, but stood blank with dismay,
As the train tore along, making up for delay;
Till at last from us all burst a shout and a cheer,
When we knew that the "Dutchman" had pass'd and was clear.

And Chiddy? Ah me! you will pardon these tears,
For he was my mate on the rails many years.
When we found him, one look was enough to reveal
That Jack's life-blood was red on the engine-wheel.

Brave Jack Chiddy! Now you don't sneer
At the name which I own is but harsh to the ear;
But a name is a sound—nothing more—deeds are best,
And Jack had the soul of a man in his breast.

Good Words. ALEXANDER ANDERSON.

A PICTURE OF LIFE.

DECLAMATION.

Life is like an extensive country, dotted with beautiful rivers and flourishing cities. Youth's village, situated upon the flower clad banks of Vanity River, is the most interesting town. The most celebrated city is called Venerable. Two trains leave Youthville in the morning, and arrive at Venerable City at dusk in the evening.

Persons desiring to take the industry train can find tickets at any station on the road. There is no express running to Wealth City, as there are many deep tunnels and dangerous bridges along the way, so that slow progress is made.

If any passengers are thrown out at Mercantile Bridge, they generally foot it to Agricultural City, and sometimes take the train again. The darkest tunnel is Opposition. If you pass through it successfully, you are perfectly secure. The train passes through the following places: Honesty Town, Enterprise, Wealth, Prosperity, Energy.

Now as to the other train. The Idleton train leaves Youthville at the same time. It is an Express after you leave Loafertown until you reach Beggarstown. Here the travellers have to plod their way through Dismal Swamp and across Pauper Desert. Those who don't like this rule, may cross over in stages and make connection with the Industrial train on its way to Wealth city. The stations are as follows: Lazyville, Loafertown, Beggarstown, Gambling City, Fighton, Tippleton, and the last station is Destruction.

The two ways are plainly mapped out: which will you take?

Teachers' Associations.

The publishers of the JOURNAL will be obliged to Inspectors and Secretaries of Teachers' Associations if they will send for publication programmes of meetings to be held, and brief accounts of meetings held.

STORMONT.—At a special meeting of the Stormont Teachers' Association, convened for the consideration of the proposed changes in the Superannuated Teachers' Fund, the following resolution was passed :—That the law relating to the Fund remain as it is, with the following amendments, viz: that an annual payment of $2 into the Fund by female teachers be made compulsory; that no money be refunded to any teacher who abandons the profession, but in the case of the death of a teacher his wife, (or her husband), or legal representative, may be refunded all amounts paid in, except the contributions of the first five years. It was also resolved that if the plan proposed by Mr. Ashdown be adopted a separate Fund should be created, and that contributions into this Fund be optional with teachers.

WEST MIDDLESEX.—The semi-annual meeting of the West Middlesex Teachers' Association was held in the basement of the Presbyterian Church, Strathroy, June 2nd and 3rd, and was fairly attended. The chair was taken at 2 p. m., on Thursday, by the Vice-President, Miss Jarvis, and Mr. Wood, President, gave his address, on the subject, "Self Culture." This lecture contained many valuable hints of an ennobling character. Mr. S. Cuddy opened the discussion on L.C.M., and showed in a very able manner his mode of teaching it. Mr. A. B. Gilbert brought forward a map of Middlesex executed very artistically, and explained his way of teaching it to a class. *Officers elected*:—Mr. A. S. Leitch, President; Miss M. Dibb, Vice-President; Mr. A. B. Gilbert, Secretary and Treasurer; Mr. J. T. Wood, Delegate to Provincial Teachers' Association. Mr. Ross's lecture on 'Mistakes in Reading,' was ably rendered and well received. Friday was occupied in discussing 'long division,' 'object lessons,' and Canadian history, drawing and 'Super. Teachers' fund.' Resolutions were passed recommending the following changes in the clauses issued by the department: No. 6—All the optional class pays $4 and a reasonable interest, on the annual payments, so that the sum paid by said class will have the same proportional value as regular contributors. Ladies pay $2. No. 7.—The word 'Public' be struck out, H. S. Teachers', Inspectors, &c. contributions may be included. No. 9.—Term limited to 25 years' service for males and females alike, also the period of 55 years for each, and that one-sixtieth be

changed to one-fiftieth of the average salary, and that period be used in all subsequent clauses. No. 10.—"From performing" be changed so as to include all accidents that might incapacitate a teacher, while in the service. No. 11.—Struck out "deceased of any person while engaged in teaching during the first ten years." Inserted, "And that the widow of teacher should receive the same amount annually as the teacher would, should he become incapacitated." No. 12.—In teaching, or of not more than two years' attendance at the Normal School. All the other clauses were approved of.

A. B. GILBERT, Sec.-treasurer.

PERTH.—The meeting of the united associations of North and South Perth was held in the Town Hall, Stratford, on the 7th, 8th and 9th ult. The attendance was very large, and though the exercises were not numerous they comprised subjects of a very practical nature, which were taken up mainly by outside talent,—the valuable services being secured of Mr. J. M. Buchan, M.A., High School Inspector; Mr. W. Scott, B.A., Head Master, Toronto Model School; Mr. D. Boyle, H. M., Elora High School, and Miss Lewis, Elocutionist, Toronto. The proceedings commenced at 10 a. m., on the first day, under the able presidency of Mr. R. Munro, President of the North Perth Association, and the first matter introduced was the Teachers' Retiring Fund, which was brought forward by Mr. A. S. McGregor. The basis he adopted was that urged by Mr. C. Ashdown in the columns of the CANADA SCHOOL JOURNAL. After considerable discussion by Messrs. Rothwell, Ryan, Hamilton, Shaw and Brown, it was resolved to hand it over to the following committee to draft a scheme to be submitted at a subsequent session, namely:—Messrs. Rothwell (Chairman), Munro, McGregor, Hamilton, Hodgins, Shaw; Misses Oliver, Lennox, Walker, Dent and Mrs. Warburton. In the afternoon Mr. Boyle, read an interesting essay on Natural Science, which he had named "Our Poor Relations." The object of the paper was to enlist the attention of teachers to the processes of evolution and revolution in nature so as to cultivate habits of observation in their pupils, which would tend to enlarge their minds, develop their thoughts and secure their sympathies for the lower animal world. In consequence of the Entrance Examination going on in the High School, Mr. S. Woods, M.A., whose paper was next on the programme, sent an apology for inability to attend and the convention then adjourned. At 7.30 p.m. a session was held specially to receive the report of the Superannuation Fund Committee, which was in effect that the fund be retained and payments be made compulsory on all grades of the profession. In moving the adoption of the report Mr. A. S. McGregor spoke with eloquent ability. He was opposed by Mr. Moir who moved that the payment be voluntary, on the ground that teachers who remain in the profession with the retiring allowance in view, are in their later years incapacitated to a certain extent and are willing to undercut others better qualified. Besides, those compelled to pay were actually supporting the retired ones in idleness, who, with care, might themselves have provided sufficient for old age; and improvident habits would obtain among those who expected an annuity in the future. These opinions were very ably combated by Mr. A. S. McGregor, who scouted the idea of a teacher with a family saving sufficient on present miserable salaries to make a provision for old age. He instanced a case where a second-class teacher was getting $200 a year; and one man who intended to make the profession a stepping-stone to something else, went in for $170 a year and board himself! The sum paid to the Government annually was small and would scarcely be felt, and in the end would be paid back with a certain amount out of the Government funds far in excess of the teacher's payments. Mr. Rothwell looked upon the matter in the same light as an insurance scheme, and if it were established, as compulsory, teachers could not object to it, for when they enter the profession they do so knowing that such a payment is expected. Mr. Roberts thought if it were a voluntary system it would fall through. Mr. Hodgins, H.M., Stratford Model School, spoke to the same effect. He would support the motion. Mr. Alexander, P. S. Inspector, North Perth, gave the history of the inception of the fund, and thought that the welfare of the teacher in this matter was the first thought in the mind of the Chief Superintendent, Rev. Dr. Ryerson. The experience of 25 or 30 years in the profession added to a teacher's value, and he had no need to undercut anyone. Those who intend to remain in the profession are in favour of the fund, those who use it only as a stepping-stone are not, and he did not think the latter should legislate for those who are spending their lives and energies in it. The first year's annuity repays the teacher all the money he paid in, and the Government gave the rest, as a free gift almost. Mr. Moran, P. S. Inspector, South Perth, said that, though personally not in favour of the fund, he was of opinion that it was an advantage to the profession to have it, but if it were to be made a voluntary thing it would soon die out. If the school tax was voluntary, public schools would soon cease to exist; and he thought it right to tax those who made the profession a stepping-stone and thus keep such people out of it. Those who leave the ranks are not treated unjustly, they get back their money from the Government so that in any case it is not lost to those who pay. The 1st clause, namely, "that the fund be retained" was put and carried. Mr. Moir's amendment, "that the payments be optional," was then put and declared carried, after which the convention adjourned. *Second day.*—Mr. S. Nethercott, President of South Perth Association occupied the chair. He introduced Mr. J. M. Buchan, H. S. I., who was cordially received. He took up the subject "English in Schools," and after a review of the history and philology of the language, entered particularly into the method of teaching Reading, Spelling, Grammar, Composition and English Literature. During an interval in Mr. Buchan's exercises, Mr. Boyle said in connection with his essay read the previous day, that at Elora High School there is a collection of natural objects made by himself assisted by the pupils and some neighbouring friends, which he invited the teachers present to see, when opportunity occurred. Mr. Munro proposed a vote of thanks to Mr. Boyle for his services at the convention, which, being seconded by Mr. Laird, was passed with acclamation. In the afternoon, Miss Lewis, graduate of the Philadelphia National School of Elocution and Oratory, gave an exemplification of the art of teaching Elocution, putting the members through a course of exercises as a practical illustration; and from a series of selections gave some admirable renderings of conversational, rhetorical and dramatic pieces. She also introduced the phonic system of spelling. Miss Lewis's language in describing the several phases of her subject was particularly well selected and to the point. The rounds of applause which greeted the conclusion of each exercise, and the strict attention manifested, indicated the deep interest the members took in the instruction. Mr. W. Scott, B. A., H. M., Toronto Model School, next gave, by special request, his address on "How to deal with Indolent Pupils." He evidently did not believe in smartening them up with the birch or strap, as he felt more inclined to blame the teacher, the parents, or the boy's associates, rather than the boy himself for indolence. Mr. Scott suggested many excellent plans for remedying this school plague: such as the teacher's self-examination, reasoning with the parents, or the boy in private, separating him from doubtful company, etc., all of which he found from experience to be successful when judiciously practised. Mr. Eckert, Principal, London E. Schools, gave an excellent, illustrated address on "Writing," as he taught it; and judging from the specimens of his skill, the subject could not have been in better hands. He advised teachers to aim at proficiency in this art, but when they were not able to write neat headlines they should use Beatty's copy-books which he thought the most suitable and best adapted. Mr. Scott, in compliance with the wishes of the members took up the subject, "Object Lessons." He said that teachers should have a definite aim in view in teaching each lesson. Object lessons should be taught for the following purposes: (1). Cultivating the senses; (2). Teaching the pupils to compare and infer; (3). Leading them to describe accurately what they observe, thus, making these lessons the medium of language lessons; (4). Imparting ideas of orderly methodical thinking. He then went on to show how to teach so as to secure these ends, and concluded by calling attention to the most common errors made in giving object lessons. Mr. Rothwell spoke in high terms of the important work done at the convention by Messrs. Scott and Eckhert, and proposed a hearty vote of thanks to these gentlemen. Mr. Munro also spoke of their praise-worthy exertions and seconded the motion, which was passed with acclamation. In the evening a concert was given in the same building, which was attended by a crowded audience. Vocal selections were rendered in excellent style by the Stratford Quartette Club, consisting of Dr. Burkart and Dr. Ahrens, and Messrs, Trainor and Roberts; Solos by Miss Dillon and Miss Kelly, and duets by Misses Clench and Hutton, were received with marked appreciation by the audience, while Miss Allen, organist of the Roman Catholic Church, presided at the piano with her well-known skill and ability. The violin solos of Miss Nora Clench carried the house by storm; she was repeatedly encored and always responded with the utmost good humour. Miss Lewis's exercises on elocution at the Convention led the teachers to expect special pleasure from her portion of the programme, an anticipation which was in no way disappointed, for, after her sixth appearance during the evening, the audience found themselves in a frame of mind similar to that in which Oliver Twist once found himself—they "wanted more." Saturday morning's session was devoted to the discussion of "Canadian History, and how to teach it." The subject was introduced in a masterly address by S. Woods, M.A., of Stratford High School, and was afterwards ably discussed by Messrs. Rothwell, Hodgins, Moran, Donaldson and others. Teachers were recommended to clothe the dry bones of Canadian History, as found in our authorized text books, in the living flesh and blood as presented in the works of Francis Parkman, to cultivate a taste for its study by the frequent recital of interesting or thrilling narrative, and to develop patriotic sentiments by recounting the devotion and achievements of the pioneers of Canada. The meeting was pronounced by those who attended it to be one of the most pleasant and profitable ever held in the County of Perth.

OTTAWA.—The Ottawa Teachers' Association met on June 3rd and 4th. The president, Mr. J. McMillan, B.A., was in the chair. *First Day.*—Miss Shenick, Head Mistress of the Girls' Model School, had her class in attendance, and taught a lesson on "Geometry." Among other things, she insisted on (1) A thorough knowledge of the definitions, axioms &c., before proceeding to the propositions. To explain these to the class she made use of cubes, triangles, and compasses, with very good effect. (2) In dealing with the propositions, she would proceed on the

same plan as with the definitions, &c. The pupils should be made to feel the truth of each statement in the proof. In the discussion that followed it was pointed out, (1) That it would be found a good way in beginning Euclid, to teach only those definitions, &c., needed in the first proposition, and then the first proposition itself and so on. (2) That the highest educational value of Euclid was in the pupil having so complete a knowledge of each proposition that he should be able mentally to picture to himself the construction, and each step in the demonstration, without the aid of a diagram. This power of abstraction was too frequently neglected. Mr. A. B. Davidson, B.A., of the Ottawa Coll. Inst., read a very suggestive paper on "The Educational Value of Political Geography." He pointed out, (1) That the text-book now generally used was little more than a compilation of names, that a large number of these names were never met with outside a geography, and that they were brought before the student in the least interesting way, with little or nothing to awaken thought. (2) That the departmental examination papers were generally so framed as to put a premium on learning mere names, and "nothing more." He said that nearly all the names necessary to be learned could be made *nuclei* around which valuable historical, social, political, or scientific information might be grouped. He advocated that more study should be given to physiography, and the important deductions as to products, &c., to be drawn therefrom. The paper received the hearty approval of the Association. Mr. Smith Curtis read a paper on "Mason's Grammar." Mr. Curtis, while admitting its more scientific treatment of grammar than perhaps any other book of the same size, pointed out (1) That in spite of its boasted superiority in the correctness of its definitions, that many of these definitions were very faulty. (2) That most of the definitions were too technical for a school book. (3) That many of the conclusions respecting certain constructions, were at variance with the definitions and with the line of argument followed by Mason in analogous cases. (4) That in the edition specially issued for use in public schools, the practical application of principles was entirely ignored. On concluding his paper, Mr. Curtis moved, seconded by Mr. Jno. Munro, Head Master of Central School West:—(1) That Mason's Grammars, on account of their technicality and omission of practical application of principles are utterly unsuitable for use in our public schools. (2) That grammar should be subordinated to composition in our public schools, and that after reading, arithmetic and writing, composition should occupy the chief place, so that no pupil who attends school, a reasonable time will be unable to conduct ordinary business in writing in a proper manner. After an animated discussion the first resolution was voted down; the second one was carried unanimously. *Second Day*:—Miss McLardy, Headmistress of Ottawa Ward School, had a class of little girls in attendance, and gave a most interesting "Object Lesson." Miss McLardy's efforts met with the warm encomiums of the Association. Mr. E. D. Parlow, Head Master of the Boys' Model School, explained his method of teaching "Map Drawing." He illustrated his remarks by means of several elegant maps which he drew upon the blackboard. Mr. Parlow's remarks cannot fail to aid in popularizing this method of teaching geography, among the teachers who heard him. Mr. C. Campbell introduced the subject of "Superannuation," but the discussion was cut short for want of time. It was resolved to hold a special meeting to consider the question. The election of officers then took place. Mr. A. Smirle, Head Master of Central School East was elected president. At a special meeting held to consider the subject of Superannuation, the circular submitted by the Legistative Committee of the Ont. Teachers' Association, was discussed with the following results:—Clauses one, two, three, seven, eight, second part of nine, second part of ten, twelve and thirteen, were adopted as they were. Clause four was amended by substituting the following:—"Each person enumerated in clause two as entitled to a retiring allowance, shall comply with the conditions of clause three for each year of his or her service." Clause five was amended by substituting the following:—"That, since high school teachers, inspectors, separate school teachers and female teachers, *now in the profession*, have not been compelled by any previous Act to pay anything into the superannuation fund, it shall remain optional with them whether they shall do so or not for the period of service already completed at the passing of this Act." The first part of clause nine was amended so that the recipient of a retiring allowance shall receive one-fiftieth of his average salary for each year during which he has contributed to the fund. The first part of clause ten was amended so that the recipient of a pension on account of disability, shall present himself each year before either a high school inspector or a public school inspector. Clause eleven was amended by substituting "five years" for the "ten years" mentioned in it.

South Essex.—The convention of teachers in South Essex, was held in Kingsville, on the 9th and 10th of June. The president, Mr. D. A. Maxwell, I.P.S., took the chair at 10 a.m. Devotional exercises were conducted by Mr. Geo. E. Wightman and Mr. B. M. Brisbin, B.A., after which the minutes of the previous meeting were adopted. The exercises of the first day were conducted by G. W. Ross, Esq., M.P., who in his happy way discussed "Reading—how to teach it," "School Routine," "School Management," and "The Teacher's Decalogue." In the evening a large and appreciative audience assembled in the Methodist Church to listen to Mr. Ross's able and eloquent lecture on "The Intellectual Faculties." It is not at all flattering to say that this lecture was an able effort. Excellent readings were given by Misses Lewis, Henning and Watkins. Solos by Miss McDonald and A. A. Ross, Esq., and anthems by the choir of the Methodist Church. On the second day the President read a departmental communication in regard to the Superannuation Fund. Each clause was taken *seriatim*, and the whole scheme rejected. It was unanimously agreed to recommend that the present scheme be continued, except that payments should be optional. Thoughtful essays were read by Mr. B. M. Brisbin, B.A., on "The Teacher," and Mr. A. Dorsett, on "How to Conduct a Recitation." A very bitter and scurrilous attack having been made through a local newspaper, on the Inspector, the teachers present with two exceptions, signed a memorial expressing entire confidence in the Inspector, and endorsing his management of educational affairs in the county. It was resolved to resume "Uniform Monthly Examinations," and a committee was appointed to prepare the questions. It was deemed advisable to continue the Promotion Examinations as at present, viz.: The Inspector prepares the questions, the teachers examine the answers of the pupils and send to the Inspector the papers of all pupils who have made 50 per cent. of the total marks attainable, and 25 per cent. on Reading, Spelling, Arithmetic and Grammar respectively; the Inspector re-examines these papers and confirms or rejects the promotion. To all pupils promoted certificates are given. The officers for the ensuing year are:—D. A. Maxwell, I.P.S., President; Miss J. Henning, Vice-President; Geo. E. Wightman, Sec.-Treas.; Messrs. Long and Pearce, Auditors. It was decided to continue Local Conventions, also to furnish each teacher in the Inspectorate with the Canada School Journal.

REVIEWS.

A Brief History of Ancient Peoples, with an Account of their Monuments, Literature and Manners. *328 pages, 18 maps and 118 illustrations. A. S. Barnes & Co., New York and Chicago. 1881.*

This is an admirable book, thoroughly adapted to the class-room, solid yet nowhere dry, condensed yet far more than a chronological skeleton. The style is graphic and the foot notes abound in anecdotes. Boys will sit down and read it by the hour for entertainment, while the general reader will find fascinating chapters on the social condition of the people, scenes from real life, and the results of recent criticism and discoveries briefly and attractively brought before him. The "drum and trumpet" theory is abandoned now-a-days, and we welcome this volume most cordially. The pronunciation of all proper names would be an improvement.

Our Little Ones.—Just the right thing for our juveniles. The selections are appropriate and beautifully illustrated; the type is large and clear. Published monthly by the Russell Publishing Co., Boston.

Silver Cymbals.—This is a series of seven books, comprising a selection of sacred and secular songs, anthems, glees, part-songs, national and temperance melodies, and sacred choruses, in the Tonic Sol-fa notation, suitable for the different classes in public and private schools, and arranged in two-part, three-part and four-part harmony.

Silver Bugles is a similar series, containing pieces suitable for marching exercises, &c. To those who understand this admirable and attractive method of reading music at sight, both these series contain much that will please them; while home and school can be made joyous and happy by their use. For boys and girls who have learned the Sol-fa notation The Song School, or "chord by chord" method of learning to sing from the old notation forms a ready stepping-stone. The price of these books, one penny each, is a marvel of cheapness. Published by Moffatt & Paige, 28 Warwick Lane, Paternoster Row, London, Eng.

Lovell's Gazetteer of British North America is before us, a neatly-bound *multum in parvo*. It contains the latest aud most authentic descriptions of over 7,500 cities, towns, villages and places in the Dominion, besides giving general information drawn from official sources, as to the names, locality, extent, &c., of over 2,300 lakes and rivers. It is edited by Mr. P. A. Crossby, and is carefully and creditably compiled. Whether to expand a person's geographical knowledge of the country; to ascertain the mineral resources, manufactures, industries, &c., in the different localities; or to find out the shortest routes of travel, the *Gazetteer* is a perfect "enquire within." No office is complete without it.

Sample pages of LOVELL'S BUSINESS AND PROFESSIONAL DIRECTORY OF THE PROVINCE OF ONTARIO FOR 1881-82 have been received. In addition to the requirements of such a work, a comprehensive description of the cities, towns and villages will be given, and also a classified business directory of the City of Montreal. It will form a hand-book of speedy reference which almost every class in the community will find of advantage, but it will be especially valuable to commercial men and the travelling public. The type is clear, the "get-up" good and the size convenient. The work will be published in November next, price $5.00.

The usual issues of *Harper's Weekly* for July contain much that is interesting for the class of readers for whom it is designed. The Nast's caricatures are admirable. "Pound Him," "Out-'shining' Everybody in Humiliation at Albany," will represent the political contest in New York State. Excellent cuts are given of President Garfield, the assassin Guiteau, and "Rochester Cathedral." "At Liberty's Door" is a timely direction of public attention to the spirit of violence and rebellion which seems to be increasing in all lands.

The stories "The Beautiful Wretch," by Wm. Black; "Christowell," by R. D. Blackmore, are continued. The supplement to the issue of July the 8th gives a full account of the attempted assassination of President Garfield.

Harper's Weekly has well been said to be one of the best Art and Literary weeklies published.

MAGAZINES.

THE NORTH AMERICAN REVIEW for the month of July has been received, and, as usual, contains some well written articles. The first of the list: "Present Aspects of the Indian Problem," is contributed by Carl Schurz. Then follows "The Religious Conflicts of the Age," by a Yankee Farmer. James Parton deals with "The Power of Public Plunder." Henry George gives "The Common Sense of Taxation." Henry Bergh contributes an article on, "The Cost of Cruelty." Richard Henry Stoddard gives an interesting sketch on, "A Study of Tennyson."

The August number of the *North American Review* devotes a liberal share of its space to a polemical duel between Col. Ingersoll, the great exponent of the unbelief of the day, and Judge Jeremiah S. Black, the eminent jurist. Col. Ingersoll has made the attack in the *Review*, and sustained it with all his force as an aggressive assailant Judge Black has taken up the challenge as the champion of Christianity. It is well that the daring infidel should be called out, and that he should be met by such an antagonist. The cause of truth can have nothing to fear from a contest of this kind. Of the merits of the battle it is for an interested public to judge. Other articles in the August number of the *Review* are: "Obstacles to Annexation," by Frederic G. Mather; "Crime and Punishment in New York," by Rev. Dr. Howard Crosby; "A Militia for the Sea," by John Roach; "Astronomical Observatories," by Prof. Simon Newcomb; and "The Public Lands of the United States," by Thomas Donaldson.

HARPER'S NEW MONTHLY for August. *Harper & Brothers, New York*,—Contents "The Surrender of Cornwallis;" "Almond Blossom," a Poem; "A Day in Africa," Part II.; "The White Mountains," Part III.; "The Parcæ, or, Three Daintie Destinies—the Armelet;" "Anne," a Novel; "Left Behind," a Poem; "Then"; "The Various Languages of Billy Moon," a Story; "A Neglected Corner of Europe," Part III.; "Water Routes from the Great North-West;" "Miss Pickett," a Story; "Assassins and Nihilists;" "Sheltered," a Story; "President Madison and the Baptist Preacher;" "A Laodicean," Book the Third, De Stancey; Editorial Matter. The number is rich in splendid engravings.

ST. NICHOLAS. *The Century Co,, New York*,—Contains a fund of the best class of reading, with attractive illustrations for young people. The August number is particularly interesting, and will be an enjoyable companion on rail or river, camping or at home during the holidays.

POPULAR SCIENCE MONTHLY. *D. Appleton & Co., New York*,—Contents; "The Herring," by Prof. T. H. Huxley, F.R.S.; "Physical Education, Recreation," by Felix L. Oswald, M.D.; "The Blood and its Circulation," by H. L. Fairchild; "The Teachings of Modern Spectroscopy," by Dr. A. Schuster, F.R.S.; "Origin and History of Life Insurance," by Theodore Wehle; "The Insufficiency of Milk," by Dyke Duckworth, M.D.; "Intelligence of Ants," by G. F. Romanes; "Lunar Lore and Portraiture," by F. E. Fryatt; "The Visions of Sane Persons," by F. Galton, F.R.S.; "School-room Ventilation," by Dr. P. J. Higgins; "Origin and Uses of Asphalte," by L. Malo, C.E.; "The Unit in Plant Life," by B. D. Halsted, Sc.D.; "The Electric Storage of Energy;" Sketch of R. W. Bunsen, &c.

SCRIBNER'S MONTHLY, ILLUSTRATED, Midsummer Holiday Number. *The Century Co,, 743 Broadway, New York.* Contents: "The Sailor's Wife;" "The Isle of Peace;" "The Daughter of Henry Sage Rittenhouse;" "No Man's Land;" "By the Sea in Normandy;" "To My Dog, *Blanco;*" "Ice Yachting on the Hudson;" "Poetry in America," First Article; "Our Circle;" "Songs of Nature;" "A Little World;" "Robert Fulton's Experiments in Submarine Gunnery;" "The People's Problem," II.; "A People's Government;" "Peter the Great as Ruler and Reformer," X.; "Queen Titania," I.; "The River Inn;" "A Rainy Day with Uncle Remus," III. (Evening); "The Village Convict;" Topics, "The World's Work;" Bric-a-Brac, &c.

The *Atlantic Monthly* for August. Contents: Chapters I.-III. of "Dr. Breen's Practice," the first instalment of a new story by W. D. Howells, the editor; "French Domestic Life and its Lessons," by John Durand; "Corda Concordia," a poem by Edmund C. Steadman, read at the opening Session of the Sumner School of Philosophy, Concord, July 11, 1881; Part I. of "In Exile," a story in two parts, by Mary Halleck Foote; "The New York Art Season," by M. G. Van Rensselaer; "On the Acting of Iago," by Richard Grant White; Chapters XXXIX.-XLII. of "The Portrait of a Lady," by Henry James, Jr.; "Sleep's Threshold," a poem by Edgar Fawcett; Part II. of "The Indoor Pauper," a study, by Octave Thanet; "Tidal Waves," a poem by H. H.; "Recollections of James J. Fields," by Edwin P. Whipple; "Parton's Life of Voltaire," by James Freeman Clarke; "Ward's English Poets," by F. H. Underwood; The Contributors' Club; Books of the Month.

THE CONTEMPORARY REVIEW. We are always glad to receive this interesting and instructive periodical. The July-number, which has just reached us, seems to be an especially interesting one. It contains "The Two Fausts," an able criticism from the pen of Mr. Charles Grant, on Goethe's Faust, and Marlowe's drama on the same subject. Mr. Thomas Wright gives us some valuable hints in his discourse on "A Possible Popular Culture." We learn some interesting facts from Reginald S. Poole's "Ancient Egypt in its Comparative Relations," "Notes from a German Village," by Prof. W. Steadman Aldis, must be interesting to everyone. Mr. Herbert Spencer's "Philosophy and the Philosophy of Religion," is well and ably dealt with, by Dr. A. M. Fairbarn. "They were a Great People, Sir," is contributed by Lieut-Col. W. F. Butler, C. B. Dr. Radcliffe's "Speculates about Dreaming." A. Gallenga contributes an article on "Tunis." The Rev. Father O'Leary replies to "Mr. Bence Jones' Story of his Experiences in Ireland," and the Dean of Peterborough gives some interesting information on "The Revised Version of the New Testament."

Publishers' Department.

GAGE'S SCHOOL EXAMINER.—Subscribers will please take notice that we do not intend to publish the School Examiner for the month of August. It was our original intention to give twelve numbers in the year, but as the School Examiner is specially designed for actual school work it is not needed now when the schools are closed and the teachers enjoying their much needed holidays.

We shall combine the numbers for August and September—an arrangement which is largely adopted by publishers in the United States and elsewhere, and one which we hope will not be unsatisfactory to our friends.

CORRECTION.—We regret the appearance of a misprint in last month's issue. In the short article replying to Mr. Parker's letter to us respecting the criticism of his book by the editor of an educational paper, the name of the work was given as "Cicero pro Arabia;" it should have been "Cicero pro Archia." The blunder was caused by the reply in question having been hurriedly inserted as the JOURNAL was going to press, and it was not seen by our proof-reader. As the JOURNAL is now entirely set up in our establishment and under the immediate supervision of our staff, such errors are not likely to arise in future.

We publish the papers given at the Intermediate Examination last month—French and Latin excepted. Solutions will be published in next month's JOURNAL. The French and Latin papers we have reserved for GAGE'S SCHOOL EXAMINER, as they are more specially connected with High School Work.

The teachers of Durham County Association have renewed their subscription to the CANADA SCHOOL JOURNAL, and have added considerably to the number of subscribers. This plainly evidences the satisfaction the JOURNAL is giving, and is the most practical and convincing proof of its value.

We omitted to state in last number of the JOURNAL that correct solutions of problems in the January number had been received from Mr. A. S. Mosher, Aylesford, N.S.

HELD OVER.—Solutions to questions in June No., by J. Moser, Nashwaaksis, N.B.; Isaac Leslie, Cow Bay, Halifax Co., N.S.; J. W. Place, Maynard; and A. Chisholm, Black River, N.S.

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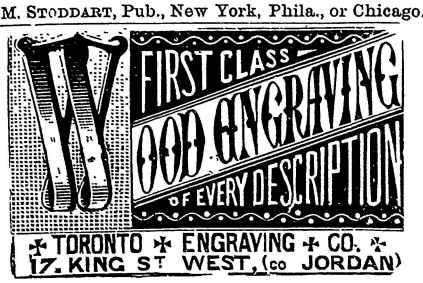

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The Canada School Journal.

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The Canada School Journal

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The Publishers frequently receive letters from their friends complaining of the non-receipt of the JOURNAL. In explanation they would state, as subscriptions are necessarily payable in advance, the mailing clerks have instructions to discontinue the paper when a subscription expires. The clerks are, of course, unable to make any distinction in a list containing names from all parts of the United States and Canada.

The CANADA SCHOOL JOURNAL is read by a gratifyingly large proportion of the Teachers of the Dominion. We cannot conceive of the Conductors of a public Journal ministering to the literary tastes and professional aims of a worthier class of readers. We aid, we trust with some degree of effectiveness, in a work of immense magnitude and importance, a work none the less grand and momentous because its processes are often silent and imperceptible. To promise for such a constituency as ours a suitable variety of Educational aliment involves more labour and care than would at first appear. Our task would be easy if we were the heralds of some particular reform, the champions of some specific idea, or institution, or hobby. Still easier would it be did we play the part of an indiscriminate critic, or faultfinder, a regular *censor morum* in every thing pertaining to Education. Ours is the nobler, but more difficult duty of providing wholesome but stimulating nutriment for the great teaching staff of the Dominion, supplementing other means of professional instruction, bringing the Educational thought and effort of the West and the East together, in short, making the CANADA SCHOOL JOURNAL the instrument through which, both the philosophy and the history of Canadian Education shall find expression.

"QUESTIONABLE ADVERTIZING" FOR PUPILS."

We have on several occasions called attention to the fact that some Collegiate Institutes were, by advertizing circulars, magazines, and agents, endeavouring to draw the best students from all parts of the Province to their classes. We regarded such practices with alarm, as they could evidently lead to but one result; the destruction of our general system of High Schools throughout the Province, and the building up in its stead of a few large institutions. A result so calamitous as this we have striven to prevent, and we are much gratified to note that the results of the various examinations this year have fully sustained our contention, that as good, and in many cases better work was done in the smaller High Schools, than in those more pretentious Institutes which were endeavouring to make capital for themselves at the expense of the other Institutes and High Schools.

The illustrations of this fact are abundant. At the University examination, many of the High Schools stood proudly at the top beside, the best of the Collegiate Institutes. In the Intermediate examinations the results were even more notably in favour of the smaller schools, as will be seen by an examination of the results which we publish in another column.

There is no more striking instance of this than that afforded by a comparison of two schools in the same district. The City of Hamilton has surrendered the whole of its once excellent public school system to the principal of the Collegiate Institute. The direct aim of the efficient public school staff of that city is now to fit their pupils for passing the Entrance Examination to the Collegiate Institute. The pupils attend very regularly, the teachers work faithfully, and Mr. Dickson therefore gets good material, and what is of vast importance, he receives his pupils at an early age. It must also be remembered that, in order by one stroke of policy to secure a yielding subordinate and a county assistant in gathering pupils, Mr. Dickson opposed the appointment of eligible Hamilton men, and favoured the appointment of the Inspector of Wentworth to the nominal position of Inspector of Hamilton. The other High Schools of Wentworth know too well how the brightest students have been swept from their vicinities to Hamilton. Notwithstanding these unequalled privileges, and the unique methods of advertizing for good students which Mr. Dickson adopted, his school only succeeded in passing 24 candidates. The small village of Caledonia, a few miles from Hamilton, passed 23 candidates. Comment is unnecessary.

It is not the number passed, but the number "plucked," that decides the inefficiency of a school. The fact that a school like that in Strathroy passes 18 out of 21, while Hamilton only passes 24 out of 89 is clear proof of the soundness of our advice to those who seek higher education, "be true to the institutions of your own district."

It is only reasonable to expect that without the aid of the agent at teachers' conventions these contrasts will be even more striking in the future, unless the Hamilton School Board reforms the anomalous system of schools now in existence in their city. Whatever may be said of a union between High and Public School Boards, there seems to be no good result from placing the control of the Public Schools in the hands of a High School Master, if he is unacquainted with Public School work.

The High School Masters' Section of the Ontario Teachers Association passed a resolution at their late meeting condemning what they named "questionable advertizing." This must not be understood to mean making announcements of the facilities afforded by schools for the various classes of students, which is of course proper and commendable.

FORM LEGISLATIVE ASSOCIATIONS IN COUNTIES.

So long as teachers are content to be merely the guides of the young they will be treated with disrespect by a large portion of the community. Even *respectable* newspapers sneer at a man if he is "only a teacher." The teacher should be a man of better training and more culture than the majority of the community among whom he labours. He is neglecting a duty which he owes to himself and those around him, if he does not make his higher training and culture felt in his district. He should persevere, in spite of repeated discouragement and frequent failure in his efforts to awaken a desire for more and better reading, to elevate the character of social meetings, by the introduction of a few interesting literary exercises, and to organize and conduct some kind of a literary association during the autumn and winter months.

He should do more than this however. He should aim to be a leader in the formation of public opinion. He can do much to guide his fellows, without making himself obnoxious by sneering at their ignorance or ridiculing their prejudices. Especially with reference to educational matters the teacher should direct the action of his section. He should fit himself for an intelligent defence of his profession from the sophistical attacks of its opponents, and he should never be cowardly enough to listen to such attacks without repelling them in a decided manner.

What the teacher should do for his section the Teachers' Association should do for the county, and especially for the county's representative in the Local Legislature. It cannot be expected that he can keep abreast of the times in educational matters in addition to attending to his private business and official duties. Even teachers find it sufficiently difficult to become fairly acquainted with their own work in its methods and its philosophy, when they devote themselves exclusively to its study. Those whose duty it is to legislate on educational matters will generally be thankful for information and suggestions coming from those whose practical experience best fits them to advise on these subjects.

The Legislative Committee of the Ontario Teachers' Association reported in favour of the organization of local legislative committees in each inspectoral district. This report was adopted at the late meeting, and we hope the recommendation will be carried out. Legislators will receive the benefit of counsel with reference to subjects about which in most cases they can really know very little, and teachers themselves will gain not only by improved legislation, but in the most essential element of self-respect. This will necessarily develop as their sphere of influence widens, and opportunities for working unitedly are increased. These local associations would be of great service to the Provincial Legislative Committee in collecting information and statistics. By all means let the local committees be formed.

RESTRICTIONS ON SCHOOL BOARDS.

Every man has a right to his opinion. He has also a right to advocate his views, provided they are not treasonable or immoral. We would not like to see any man's liberties lessened, but we would not object to the enactment of a law which would prohibit the adoption by Parliament of undigested opinions, simply because they may be stated forcibly by some member whose personal interests have blinded him to the rights of others. Either one of two things might fairly be expected; important reactionary amendments should not become law until the session following the one in which they are introduced, or some one in the house should be sufficiently well-informed to be able to expose fallacies, however loudly they may be proclaimed by interested parties.

It is a well-known fact that there are in Canada, and, indeed, in every civilized country, certain classes who would root out utterly a national system of public schools. There are first the people who have too much tone to send their own children to a public school. Then we meet the sectarians, who oppose what they designate the godless secular schools. There are also the rich who have no children, and who are too often narrow, selfish and grasping, who regard it as an outrage that they should have to help to pay for the education of the children of other people.

These people are not strangers, neither are they new foes. Their great grand-fathers were just as ungenerous and just as narrow-minded as they are. Unfortunately, however, there are times when they succeed in gaining their desires, in part at least. This does not follow because they themselves are any wiser, or their arguments any stronger, but because those who should withstand their aggressions are not prepared for duty.

During the session of the Ontario Legislature in 1879, one of the members introduced a resolution proposing to take from school boards their right to provide accommodation for the pupils resident in the municipality or section whose school interests they were elected to control. He was a large ratepayer in a section in which he did not reside, and he claimed that the trustees should have no power to expend money on capital account. He did not argue the case with a tithe of the ability which had been shown in urging the same views in 1851, but while his abler predecessors were defeated, he was completely victorious. He was spared the trouble of effort in accomplishing his reactionary work, too, for the Government asked him to withdraw his notice of motion, and incorporated his resolution with the amended school bill of that year. Protests came from many parts of the country, the amendment was amended so as to remove its worst features, and was submitted in a harmless shape, but during the last two days of the session was passed in its most objectionable form.

We are glad to see that the opposition to the measure, instead of remaining passive, is rapidly becoming active and decided. A resolution calling for its repeal was unanimously passed at the Provincial Convention in August, and we confidently hope that Mr. Crooks will give the matter his most careful consideration. We are convinced that if he does so he will agree with the views of his great predecessor and with the whole teaching profession, that the principle destroyed by the 29th amendment of 1879 was the "Samson lock" of the Public School system of the Province.

MATHEMATICS AT THE INTERMEDIATE.

Our readers well know that certain men have, during the past few years, laboured hard to make the word "mathematics" distasteful to students and politicians, with the single aim of injuring one of the ablest educators of our country. Unfortunately for him, he was not only recognized in America and England as an able mathematician, but he was a man of power and influence in his own country, and he could not always be brought to see that he was intended by his Creator solely to advance the personal interests of a few selfish and vindictive men. Failing to injure him by other means, they raised the cry of "mathematics!" and endeavoured to produce the impression that through the influence of Dr. McLellan the study of mathematics was being unduly forced into prominence in our High Schools. When, at the beginning of this year, he found it desirable to rest for a time from a portion of his work, these gentlemen greatly rejoiced, and impatiently waited for the coming examinations, that they might express their satisfaction at the change of examiners in mathematics. The hour at length arrived, and, it is said, by pre-arranged plan several of these "guileless beings" wrote to the Minister of Education expressing their unbounded satisfaction with the mathematical papers for the Intermediate, each taking special care incidentally to contrast them with those of previous years. Unfortunately for them and their wily schemes, mathematics never before carried such destruction among their ranks as this year. Some of them are reported to have lost every candidate through the papers of which they so highly approved.

We do not wish to be understood as objecting to mathematics; neither do we say one word against the very able and judicious mathematical examiners of this year. We merely record the discomfiture of a few designing men in their last attempt to injure one of our ablest educators.

RESUSCITATION OF THOSE APPARENTLY DROWNED.

There has been an unusually large number of deaths from drowning in Canada during the present season. Travel by water is becoming more and more popular, and every year shows more clearly the necessity for providing against avoidable death by drowning. The art of swimming and floating should in some way be more universally taught and practised. The method of resuscitation should also be taught, and it may be introduced and explained in any school without difficulty. We are sure that the teachers throughout the Dominion will join us in expressing gratitude to Dr. McLaughlin, M.P.P., for the very concise, clear, and simple rules contained in the article in another column of this *Journal*. There are several points of detail, introduced in these rules, which are of vital importance, and which have been overlooked in all other codes with which we are acquainted.

With a view of making the rules more practically useful, we have had cuts specially prepared for the article, and we strongly urge all teachers of classes above the second book to explain in theory, and to illustrate practically before their classes the mode of operation most likely to restore to consciousness those apparently drowned.

A pupil should be operated upon by the teacher and one or two assistants from the senior pupils, or the pupils themselves may go through the various steps, in turn, under the guidance of the teacher. The Toronto School Board has decided that the method of resuscitation shall be taught in every school in the city.

Dr. McLaughlin has, on former occasions in the Legislature, shown the deep interest he takes in the welfare of both the teachers and the pupils in our schools. We trust that he may continue to champion the cause of long holidays, and due attention to hygienic demands in schools, and we will regard it as a privilege to assist him in his good work.

ONTARIO TEACHERS' ASSOCIATION.

HIGH SCHOOL SECTION.

The proceedings of this section were of special interest and importance, on account of the subjects under discussion. At the meeting of the association last year, this section appointed a committee on Legislative Aid to Secondary Education, including the Upper Canada College question, and also that relating to the grading of secondary schools into High Schools and Collegiate Institutes. This committee had partly matured a scheme for the grading of High Schools and the distributing of the legislative grant; but, before their report was submitted to the section, a Memorandum was issued by the Minister of Education, inviting this committee and the executive of the section, together with the H. S. Inspectors, to consider a number of questions, including that of the special committee.

This joint committee met on Monday preceding the convention, and, after frequent and prolonged sessions, arrived at certain conclusions, which were embodied in their report to the full section on Wednesday.

The proceedings were characterized by an unusual amount of pointed, earnest discussion; and the work accomplished is regarded as very satisfactory. Although several questions were discussed which involved the consideration of the special interests of the different grades of schools, the best of feeling prevailed, the *general good* of the High School system being kept uppermost.

The report was considered clause by clause, and the following are the resolutions finally passed by the section:

1st. That the fixed grant to each High School or Collegiate Institute be one-fourth of the amount paid for teachers' salaries. 2nd. That a portion of the grant be given on general average attendance, and that a further sum of say $3 per pupil be granted on the average attendance during the preceding year, of those who pass the intermediate examination. 3rd. That the clause in the statute relating to the establishment of Collegiate Institutes should be repealed in so far as regards the required attendance of a certain number of boys in Latin or Greek. 4th. An amendment was substituted—That in the opinion of this section Collegiate Institutes should continue to exist, but that the basis of establishment and continuance should be broadened by including girls as well as boys, and by recognizing other studies as well as Latin and Greek; to which was added, that in the opinion of this section no school should receive a total grant of less than $400, or more than the highest grant paid to any school this year (1881). 5th. That in the interest of secondary education it is desirable that a minimum fee of

say $5 per annum should be established in all High Schools, provided some arrangement be made to meet the case of those towns which contain High Schools, and whose Public Schools contain no 5th and 6th classes.

Our readers will see that this disposes for the present of the question as to the necessity and desirability of Collegiate Institutes. Some have thought that this class of schools was anomalous and quite unnecessary in the system; and, particularly that the special grant they receive ought to be taken from them. It is evident that the very full discussion of this question has accomplished much good, and brought the masters to devise such measures as are likely to perpetuate these schools, and possibly increase the number, at the same time placing them on a more defensible basis. According to the above scheme, any school may qualify in Latin if desirable, but other schools unable to reach the average of sixty boys in classics will be able to attain Institute rank by specializing in some other department. This meets a very generally expressed demand, and will place girls on an equality with boys.

The first resolution is very well calculated to encourage Boards of Trustees to liberality in the matter of salaries. It is well known that as a class, High School teachers are insufficiently paid, and this rule will, if adopted, tend greatly to improve the present condition of things.

The fourth clause very wisely proposes a limit beyond which no school may go in receiving government aid. This was, of course, necessary after passing the first clause; and will tend to a more equitable distribution of the grant among the lower grades.

The fifth clause we believe was passed on a very small majority, since, while it is thought there is a growing feeling in favor of fees, a difficulty presents itself, first in the case referred to, where parents might feel disposed to insist on free tuition in the Public Schools through the fifth and sixth classes—thus personally saving High School fees, but putting *the town* to the *inevitable expense* of *additional teachers* for these forms. There is another objection to hastily making any change, from the fact that some High Schools in towns separated in the county receive large grants from County Councils *on condition* of there being no fees. The imposition of fees we think might be left with the local authorities, since no compulsory scheme appears at present generally applicable.

The following additional resolutions were passed:

It was moved by Mr. McHenry, seconded by Mr. Bowerman, and carried, That in the opinion of this section the standard for admission to High Schools should remain as at present, but that some suitable elementary text book in English History should be prescribed for Public Schools.

Mr Millar moved, seconded by Mr. Hodgson, That this section thinks that questionable advertising and like methods of inducing students to remove from institutions to which they fairly belong, for the purpose of building up large Collegiate Institutes and High Schools, have the effect of lowering the professional respect of teachers. Carried *nem. con.*

What questionable advertising meant was not plain, and the Executive Committee was requested to define it, and report at the next annual meeting.

A motion by Mr. McHenry, seconded by Mr. Fessenden, was carried, requesting Messrs. Seath and McMurchy to prepare a resolution anent the retirement of Dr. Tassie.

The section then proceeded to the election of officers for the next year:—

It was moved by Mr. Strang, seconded by Mr. Reid, "That the Executive Committee for the ensuing year be composed of Messrs. McHenry (Chairman), Fessenden (Secretary), McMurchy, Purslow, McGregor, and A. Millar (Walkerton); and that the Legislative Committee be composed of Messrs. Seath, Millar (St. Thomas), and Hunter. Carried.

Mr. Strang moved, and Mr. Robinson seconded, "That in the opinion of this section it is desirable that the course of study prescribed for the lower school should be revised so as to make it more flexible, especially in the case of girls, and to secure the payment of greater attention to the higher English branches." Carried.

Moved by Mr. Robinson, seconded by Mr. Hodgson, "That in the opinion of the High School section the amount of Latin and French prescribed for the Intermediate is too great, and that the programme should be amended by striking out *Cicero Pro Archia*, or some equivalent, and a portion of the French." Carried.

Moved by Mr. McMurchy, seconded by H. J. Strang, "That the cordial thanks of this section be conveyed to Dr. Tassie for the careful attention which he gave the interests of the High School section while he acted as their representative on the Senate, and that they desire to express their regret at his withdrawal from a profession in which he laboured so long and successfully." Carried.

We hope that the resolution referring to the course of study for girls may receive due attention from the Minister; as it seems to be the uniform opinion of head-masters that it is practically impossible to bring to the passing point in mathematics many girls who stand high in all other departments of their work. The teachers desire, we believe, that after they have reached a fair standard in this group, they be allowed to substitute an equivalent (for the balance of mathematics) in additional French, German, or English. For those not aiming at teaching,—*i.e.* for the Intermediate *per se*,—this is quite practicable, and we trust may be brought about ere another examination takes place.

The head-masters seem to think that the Latin group is at present rather heavy, and have suggested that the work be lightened. The same request is made regarding the French. As far as the Latin is concerned, since classes in all the authors prescribed for 1881–2 must be formed for students preparing for either of our Universities, we can see no good reason for dropping any one of these representative authors, with whose style every boy reading Latin ought to be early familiarized. Doubtless the minister will give the various recommendations of this section that consideration which they deserve, especially as on nearly all the subjects discussed he has requested an expression of opinion.

[The work of the other Sections will be analyzed next month.]

—It gives us much pleasure to record the success of a teacher who, by diligent study and a faithful performance of his duty, has won a higher position in the profession. Mr. W. F. Rittenhouse, of St. Catharines Central School, improved the small portion of time not occupied in teaching by qualifying himself for a higher certificate than the one he lately held. This, together with a recognition of his indefatigable labours in the school-room, won the approbation of the Board, who have promoted him to the head mastership of the school in which he so faithfully performed his duty as assistant. From our knowledge of Mr. Rittenhouse we can safely predict equal success and satisfaction in the more onerous and responsible position he now fills.

—We regret extremely to hear of the illness of Mr. P. Switzer, P. S. Inspector of the Algoma and Parry Sound District, and one of the most indefatigable workers in the cause of education. Mr. Wm. Kidd, P. S. I., Kingston, is also reported ill, and unable to attend to his duties; and Mr. J. C. Glashan, H.S.I., has suffered much from illness. We sincerely hope that ere long we shall receive a favourable account of good progress made towards recovery, if not of complete convalescence, of these three gentlemen.

We reprint an interesting editorial item which was accidentally misplaced in our July number.

The authorities of the leading New England Colleges have undertaken and are maturing arrangements for uniform requisitions for admission, from which much advantage must accrue to the Colleges themselves, to the preparatory schools, and to the cause of Education as a whole. The movement was entered on with a good deal of hesitation, but has made unexpectedly rapid progress. In the Autumn of 1879, ten of the New England Colleges—Harvard, Yale, Brown, Dartmouth, Williams, Amherst, Wesleyan, Trinity, Tufts, and Boston University, agreed to the holding of four conferences of Examiners for the purpose of testing the practicability of agreement upon requisitions in the four departments of Greek, Latin, Mathematics and English. These conferences were held; the Greek examiners meeting at Cambridge, the Latin at New Haven, the Mathematical at Providence, and the English at Hartford.

In each conference the examiners arrived at results practically unanimous, and when the standards recommended by them respectively were submitted to the various Faculties, the decisions of the Faculties were favourable far beyond original anticipations. A majority of the Colleges have either modified the entrance requirements in accordance with the recommendations of the examiners, or have reached the decision to do so for the incoming year. Further conferences are provided for, and will, no doubt, result in the complete unification of standards of admission to a large majority of the leading Colleges of the American Union.

From an item in our Educational notes from Nova Scotia, our readers will see that a goodly degree of interest is still taken in that Province in the question of higher education, and particularly in that phase of it, known as University Consolidation. The various religious bodies possessing Colleges, or at least most of them, are moving through their recognized agencies to strengthen their respective institutions financially. These efforts are apparently directed in the main to endowments of a permanent character, and indicate a disposition natural under the circumstances, to turn to good account both the loss of governmental aid and the current agitation in favour of Consolidation. The result of these financial appeals will be awaited with interest as having a not remote or unimportant bearing on the question in hand. The general aim of the gentlemen who are promoting the Consolidation movement is clearly disclosed, and so indeed are the methods by which the public mind is to be affected, and the desired end realized. The agitation however, is criticized as vague and aimless, because no definite scheme of reconstruction and amalgamation has been propounded. The practical difficulties are confessedly serious. Probably it is felt that the precise necessity is to create a strong *sentiment* in favour of union, to which it is hoped the obstacles of a practical nature will yield. The address of the Superintendent of Education to the Teachers of the Province assembled at Truro, contained some temperate allusions to this subject, recognizing the desire for Educational unity as a natural and worthy aspiration, and at the same time conceding their full strength to the feeling obstructing the gratification of this desire.

—The Bishop of Manchester struck a good key note for Canadian as well as English teachers, when he said recently, that,

"The 35,000 teachers now employed in the elementary schools, whether connected with any specific religious denomination or not, should count it not only their highest duty, but their chiefest honour and privilege, to teach to those committed to their charge a simple, reasonable and apostolic Christianity."

There is no doubt that the future of a child, his capacity to benefit himself and his country depends more on the training of his moral nature than his mental powers. Teachers should teach morality systematically, not in set lessons, but by correct examples and just decisions, by always placing truth and honesty above mere smartness, by commending industry and perseverance rather than reliance upon genius, by making "duty" the motto of each pupil, and by embracing every fit occasion in school life for showing the good effects of virtue, and the evil results of wrong actions.

—Statistics are usually uninteresting, but some are valuable for reference. General Eaton, United States' Commissioner of Education, has issued a circular showing the comparative statistics of the principal countries of the world in regard to elementary education. The following refer to the countries having one million pupils or over:—

Countries.	Population	Pupils
1. United States	50,152,866	9,424,086
2. France	36,905,788	4,716,935
3. Prussia	25,742,404	4,007,776
4. England and Wales	25,165,336	3,710,883
5. Japan	34,245,323	2,162,962
6. Austria	21,752,000	2,134,683
7. Italy	20,801,000	1,931,617
8. Hungary	15,666,000	1,559,636
9. Spain	16,507,000	1,410,000
10. Russia	78,500,000	1,213,325
11. Ireland	5,411,416	1,031,995

It will be seen that America and Ireland have the largest ratio of pupils to population—about 1 to 5, while Russia shows the smallest ratio—about 1 to 65.

—We call special attention to the advertisement of Miss Lewis in our columns. This lady has lectured and given readings before the Toronto, the North Grey, and the Perth associations with the greatest success. The report of the last association stated that, "she gave an exemplification of the art of teaching Elocution, putting the members through a course of exercises as a practical illustration; and from a series of selections gave some admirable readings of conversational, oratorical, and dramatic pieces. She also introduced the phonic system of spelling. Miss Lewis's language in describing the several phases of her subject was particularly well selected and to the point. The rounds of applause which greeted the con-

clusion of each exercise, and the strict attention manifested, indicated the deep interest the members took in the instruction." "Miss Lewis's exercises in elocution at the Convention led the teachers to expect special pleasure from her Readings, given on Friday night, in the Town Hall of Stratford, an anticipation which was in no way disappointed, for after her sixth appearance during the evening the crowded audience found themselves in a frame of mind similar to that in which 'Oliver Twist' found himself—they wanted more." Miss Lewis gave her lecture and Readings before the North Grey Association with equal satisfaction and success, and in Toronto and various parts of the Province, her Recitations and Readings have excited the greatest interest. We may add also in connection with this young lady's high qualifications that she is the daughter of Mr. Richard Lewis, the well known elocutionist.

Mathematical Department.

SOLUTIONS TO INTERMEDIATE EXAMINATION PAPERS, JULY, 1881.

ARITHMETIC.

1. (*a*) L. C. M. $=5\times17\times47\times109\times243=105{,}815{,}565$.
   (*b*) L. C. M. of $4\frac{1}{2}$, 5, $2\frac{3}{4}$, and $3\frac{1}{2}=3456$ inches, the side of the square.
2. (*a*) Book. work.
   (*b*) $\frac{2}{3}+\frac{2}{3}+$ &c., 5 terms $=\frac{10}{3}$.
   (*c*) $\frac{2}{3}\times\frac{5}{7}=$ product.
   $\therefore\ \frac{2}{3}\times5=7$ times product.
   i.e. $\frac{10}{3}=7$ times product.
   or $\frac{1}{7}$ of $\frac{10}{3}=$ product $=\frac{10}{21}=\frac{5\times2}{3\times7}$.
3. (*a*) Ans. $173\frac{2543}{4704}$.
   (*b*) Ans. 5 dys., 21 hrs., 11 min., $53\frac{13}{35}$ sec.
4. See Hamblin Smith's Arith., Can. Ed., p. 250.
   Litre = 1 cub. decimetre $=\frac{1}{1000}$ cub. metre.
   1 pt. $=\frac{277}{8}=34{\cdot}625$ cub. in.
   $\therefore$ 1 litre $=1{\cdot}76077\times34{\cdot}625$ cub. in.
   1 metre $=10\times\sqrt[3]{1{\cdot}76077\times34{\cdot}625}=39{\cdot}37+$ inches.
5. No. dys. $=\dfrac{6\times6\times9\times3}{7\times5\times16}=1\frac{103}{140}$ dys.—Ans.
6. No. men $=\dfrac{9\times40\times2000\times2000\times1000}{12\times30\times1600\times1600}=1562\frac{1}{2}$ men.
7. In 15 min. true time, the min. hand will pass over $\frac{9}{10}$ of 15 min. spaces $=13\frac{1}{2}$ spaces.
   In 15 min. true time the hour hand will pass $\frac{21}{10}$ of $\frac{5}{4}$ min. spaces on the face $=1\frac{5}{16}$ spaces.
   $\therefore$ Distance apart at time of observation
   $=13\frac{1}{2}-1\frac{5}{16}=12\frac{3}{16}$ spaces.
8. \$3700 yields \$270 int. Rate $=7\frac{11}{37}\%$.—Ans.
9. The company gets 8% compound int. for its money.
   $\therefore$ Sum $(1{\cdot}08)^2=70\,(1{\cdot}08)+70+1000$.
   Sum $=\dfrac{1145{\cdot}60}{1{\cdot}08\times1{\cdot}08}=\$982{\cdot}17$.—Ans.

See H. Smith's Arith., Can. Ed., p. 343.

ALGEBRA.

1. (*a*) $x^3+y^3=(x+y)(x^2-xy+y^2)$.
   (*b*) $x^3+y^3+z^3-3xyz=$
   $(x^3+y^3)+3xy\,(x+y)-3xy\,(x+y)+z^3-3xyz=$
   $\{(x+y)^3+z^3\}-3xy\,(x+y+z)=$
   $(x+y+z)\{(x+y)^2-(x+y)\,z+z^2-3xy\}=$
   $(x+y+z)\,(x^2+y^2+z^2-xy-yz-zx)$.

(1) For $x+z$ write m, for $y-z$ write n and the expression assumes the form
$m^3+n^3-(m+n)\,(m-n)^2=(m+n)\,mn$
divide through by $m+n$, using (*a*)
$(m^2-mn+n^2)-(m-n)^2=mn$, which is an identity on expansion.

(2) Left hand member
$=(a^2-bc)^3-(a^2-bc)\,(b^2-ac)\,(c^2-ab)$
$+(b^2-ac)^3-(\ \ ''\ \ )\,(\ \ ''\ \ )\,(\ \ ''\ \ )$
$+(c^2-ab)^3-(\ \ ''\ \ )\,(\ \ ''\ \ )\,(\ \ ''\ \ )$.
Factoring each member this is
$=(a^2-bc)\{(a^2-bc)^2-(b^2-ac)\,(c^2-ab)\}$
$+(b^2-ac)\{(b^2-ac)^2-(a^2-bc)\,(c^2-ab)\}$
$+(c^2-ab)\{(c^2-ab)^2-(a^2-bc)\,(b^2-ac)\}$.
Simplifying the large brackets
$=a(a^2-bc)\,(a^3+b^3+c^3-3abc)$
$+b(b^2-ac)\,(\qquad''\qquad)$
$+c(c^2-ab)\,(\qquad''\qquad)$.
Multiplying out a, b and c and adding up
$=(a^3+b^3+c^3=3abc)\,(a^3+b^3+c^3-3abc)$
$=(a^3+b^3+c^3-3abc)^2$.

See McLellan's Alg., page 37.
Todhunter's Alg., page 143.

2. The given relation transposed is
$(a^2-b^2)+c(a-b)=0$, or
$(a-b)(a+b+c)=0$. Now one at least of the factors must $=0$, but $a-b$ is not $=0$ since a and b are unequal.
$\therefore\ a+b+c=0$
i.e. $(a+b+c)\,(ab+bc+ca)=0$, which is the required expression factored.

3. Since the L. C. M. is of only four dimensions, while their product is of six dimensions, the G. C. M. must be of two dimensions. Let it be x^2+mx+k. Divide each of the two given quantities by x^2+mx+k and put the remds. separately $=0$, and we get:
$-k=m(a-m)$ and $b=k\,(a-m)$;
also $-m=c-k$ and $d=-mk$.
Now eliminate m and k.
$$\therefore\quad k=\frac{b-d}{a}\ \text{and}\ m=\frac{b-d-ac}{a}.$$
Hence $$-\frac{b-d}{a}=\left(\frac{b-d-ac}{a}\right)\left(a-\frac{b-d-ac}{a}\right).$$
i. e. $a(d-b)=(b-d-ac)(a^2-b+d+ac)$.

4. Sum $=\dfrac{z^3(x^2-y^2)+x^3(y^2-z^2)+y^3(z^2-x^2)}{(x-y)(y-z)(z-x)}$.
$=\dfrac{(x-y)(y-z)(z-x)(-xy-yz-zx)}{(x-y)(y-z)(-x)}$,
$=-(xy+yz+zx)$.

5. (1) Given expression:
$$=2\times\frac{2bc-b^2-c^2+a^2}{2bc}\times\frac{2ca-c^2-a^2+b^2}{2ca}\times\frac{2ab-a^2-b^2+c^2}{2ab}$$
$$=\frac{1}{4a^2b^2c^2}\{a^2-(b-c)^2\}\{b^2-(c-a)^2\}\{c^2-(a-b)^2\},$$
$=\dfrac{1}{4a^2b^2c^2}\,(a+b-c)^2(a-b+c)^2(b+c-a)^2$, of which the sq. rt. is
$$\frac{1}{2abc}(a+b-c)(a-b+c)(b+c-a),$$
(2) Sq. rt. $=x^2+\frac{1}{2}x+\frac{7}{2}$, by inspection.

6. "Every equation of the nth. degree has n roots and only n." The given expression contains x only to the first degree. Hence if it admits of more than one value for x it must be an identity, not an $=n$. But the expr. vanishes when $x+a=0$, or $x+b=0$, or $x+c=0$. Hence $x=-a$, $-b$, $-c$, and the expr. is an identity. See H. Smith's Alg. p. 57.

7. $$\frac{(b+c)(b-c)}{k-a}+\frac{(c+a)(c-a)}{k-b}+\frac{(a+b)(a-b)}{k-c}.$$
Observe that the sum of $(b-c)$, $(c-a)$, $(a-b)=0$. Thus the expr. would vanish if the remaining part of each fraction disappeared.
This would happen if $b+c=k-a$,
$c+a=k-b$,
$a+b=k-c$.
And we see that these three relations hold when $k=a+b+c$.

8. Let $3x=$A's income.
$12y=$ " expenditure.
$\therefore\ 3x-12y=$ " saving.
Then from conditions given,
$2x=$B's income,
$y=$ " expenditure.
$\therefore\ 2x-y=$ " saving.
Now their savings are as 4:5,
$\therefore\ 5\,(3x-12y)=4\,(2x-y)$,

$\therefore\ x=8y,$

or $3x=24y=$ A's income.

But he spends $12y$, hence saves half his income.

9. (1) $x=\frac{2}{3}$.

(2) Transpose, and add each side thus:

$$\frac{1}{x-a}+\frac{1}{x-4a}=\frac{1}{x-3a}+\frac{1}{x-2a},$$

$$\frac{2x-5a}{(x-a)(x-4a)}=\frac{2x-5a}{(x-3a)(x-2a)},$$

$$\therefore\ 2x-5a=0 \text{ or } x=\frac{5a}{2}.$$

This equation becomes an identity when $a=0$, which also satisfies the quotient remaining after the last division.

(3) Complete the divisions, cancel quotients, transpose remainders, and add the left hand, thus:

$$\frac{x+1}{x^2+x+1}-\frac{1}{x-1}=\frac{1}{x^3-1},$$

$$\frac{x^2-1-x^2-x-1}{x^3-1}=\frac{1}{x^3-1},$$

$$\therefore\ -x-2=1,$$

$$x=-3.$$

(4) Add the equations.

$$(x+y)^2+(x+y)=56.$$

$$\therefore\ x+y=+7, \text{ or } -8.$$

From 1st equation

$$x(x+y)+y=25.$$

Substitute $7x+y=25,$

Or $-8x+y=25.$

Combine these respectively with

$$x+y=7, \text{ or } -8,$$

And we get $x=3$, or $-\frac{11}{3}$,

$y=4$, or $-\frac{13}{3}$.

NATURAL PHILOSOPHY.

1. If a point were left wholly to itself it would either continue at rest or it would move uniformly in a straight line. Any cause which changes or tends to change either of these states is a *force.*—*Twisden.*

It is found that on all bodies on the earth a pressure is exerted downwards, in a vertical direction, and this pressure, which is called the *weight* of the body, is invariable at the same place for the same body at all times, whatever form, size or position the body may be made to take.—*Cherriman.*

In order to conceive the existence of a force, we must conceive that there is something upon which it can act, and which may be called matter.—*Kirkland.*

The word *mass* is used as an abbreviation for "quantity of matter."—*Todhunter.*

Mass is estimated by its weight, the weight of one pound of matter in London at the sea-level being assumed as the unit. Forces are measured by comparison with the standard pound or gravitation unit.

The force of gravitation is different at different places. If the standard pound were weighed *in a spring balance* at a place near the equator, it would be found to be about 22 grains lighter than if similarly weighed in London.—*Twisden.*

Perhaps the most delicate of all instruments for the measurement of force is *the Pendulum.* The square of the number of small oscillations in a given time is proportional to the magnitude of the force under which these oscillations take place. For the estimation of the relative amounts of gravity at different places this is by far the most perfect instrument.—*Thompson and Tait.*

2. Book-work.

$R^2=P^2+Q^2+2PQ\cos. x$, where R is the resultant, P and Q the components, and x the angle between them. See H. Smith's *Statics*, p. 24. Hence if P and Q are constant, R will increase when cos. x increases, and decrease when cos. x decreases. But cos. x decreases from 1 to -1 as the angle increases from 0° to 180°. Thus R decreases as the angle increases.

Geometrically we have to show that of all parallelograms having equal adjacent sides, that which has the smallest angle between these sides has the greatest diagonal, and that which has the greatest angle has the least diagonal.

It is easily shown that when the forces are equal, equal increments will not affect the direction of the resultant. If they are unequal equal increments will bring the resultant nearer the smaller force, but proportional increments will not change its direction.

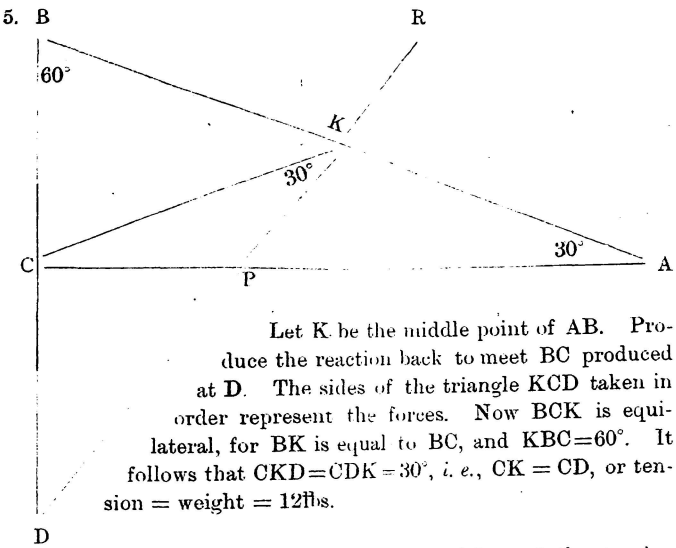
3. Let ABCD be the square. Place 10lbs. at A, 20 at B, 30 at C, and 40 at D. Take BE one-third of AB, and CF four-sevenths of CD. Join EF, and take GF three-tenths of EF. F is the point required. The proof is obvious.

4. See Kirkland's *Statics*, p. 93.

The loss is $\frac{W(a-a)^2}{ab}$ where W is the weight put into the scale pan. And the true weight of the goods sold is $W\left(\frac{b}{a}+\frac{a}{b}\right)$.

Hence the required fraction is $=\frac{(a-b)^2}{a^2+b^2}$ of the true weight.

5.



Let K be the middle point of AB. Produce the reaction back to meet BC produced at D. The sides of the triangle KCD taken in order represent the forces. Now BCK is equilateral, for BK is equal to BC, and KBC=60°. It follows that CKD=CDK=30°, *i. e.*, CK = CD, or tension = weight = 12lbs.

R, the reaction, is the resultant of the weight and the tension acting at 60°, and each=12 lbs. Hence $R=12\sqrt{3}$.

If P be the point where KD cuts CA, then the string may be fastened anywhere between C and P.

(Remainder next month.)

Correspondence.

To the Editor of the CANADA SCHOOL JOURNAL.

SIR.—A few weeks ago the "City of Toronto" returned to her wharf from Niagara, and whilst wheeling wood on deck one of her hands fell overboard and in a few moments was rescued. He lay untouched, and uncared for; and when a student very properly attempted to resuscitate him, he not only received no aid from the officers or crew of the vessel, but was taken by the shoulder and asked to step aside. The unfortunate sailor was wrapped in canvas and sent to the morgue.

This is the old, old story. People are willing to put forth Herculean efforts to *rescue* persons from water, and when rescued, although (in many cases) not dead, the bystanders know not what to do. With the hope that, perhaps, some of the many teachers who peruse your journal might be anxious to give to their pupils a knowledge of some method of resuscitation, I venture to aid them with the following rules. I have adopted the Sylvester method (with some additional points from others), because it is the system used in Great Britain, and in some continental countries, and because I think it is the best. In preparing the subjoined rules I have avoided all technicalities in order that the language may be readily comprehended. I have also added to each rule its *rationale*, for I think a rule is much more easily remembered if the reason for its use is understood.

Faithfully yours,

J. W. McLAUGHLIN.

APPARENTLY DROWNED, BUT NOT DEAD.

By J. W. McLaughlin, M.D., M.P.P.

A man falls into water, struggles for a few moments, and sinks. Strenuous efforts are made for his recovery, and finally the body is laid on the deck or shore. It is cold. The face is pale. The eyelids are livid, swollen and partly open. The pupil, or dark spot in the centre of the coloured part of the eye, is very large. Froth oozes from the mouth and nostrils. The chest is still; he does not breathe. A hand is placed over the heart just below the left breast; its beat is unfelt. Purple blotches are scattered here and there over the body and limbs.

With all these symptoms, so indicative of death, can that chest be made to rise and fall in the act of breathing again? Can anything be done that the heart-beat may be perceived once more? Is it possible that life can be restored to those who are apparently drowned?

These questions the following rules are intended to answer; and if faithfully and intelligently enforced, reasonable hope of successful restoration to life may be entertained in many cases.

Rule 1.—*Loosen everything around the neck, turn the patient's face downward, raise the body several inches higher than the head, and retain it in this position long enough to count four slowly.* This movement will enable the froth and water to escape from the throat, mouth and nostrils, so that air may have free access to the lungs as soon as breathing commences.

Rule 2.—*Place the patient on his back, with the chest slightly elevated by a folded coat or other suitable object, and the head in a straight line with the body.* This position is necessary for the practice of artificial breathing, described in Rule 4.

Rule 3.—Immediately below the root or back part of the tongue is the entrance of the air tube leading to the lungs. This entrance is guarded by a small valve, which is closed when the tongue falls far back into the throat, and opened when it is drawn forward. Hence the third Rule:—*Draw the tongue forward, and retain it in this position.* This organ being covered with the mucus of the mouth, is very slippery and cannot be easily held by the naked hand. This difficulty is readily overcome, however, by placing a cotton rag or handkerchief between it and the fingers.

Rule 4.—*Practice artificial breathing.* This can only be accomplished by imitating the natural movements of the chest. In order that air may enter the lungs, the chest cavity must be enlarged, and in order that it may be expelled, the chest cavity must be diminished. Nature accomplishes these ends through the action of certain muscles which surround the chest. By art the same results may be effected, although not so perfectly, as follows:—*The operator stands astride the patient's hips, grasps the arms at the elbows, and raises them above the head, until they nearly meet.* This movement expands the chest, and air enters the lungs.

Next he brings the arms down by the side, and with both hands on the lower part of the chest and stomach, makes, by a quick motion, firm pressure towards the patient's back. This act diminishes the chest cavity, and consequently forces the air out of the lungs. This double movement is to be regularly repeated from twelve to fifteen times a minute.

Rule 5.—*Without interfering with artificial respiration remove all cold, wet clothing, and restore warmth to the body.* Importance must be attached to this rule and the greatest possible haste exercised in carrying it out, especially if the body has been long in the water. If practicable, while the body is being rescued from the water, make preparations for the application of heat, either by hot blankets, hot water, hot air, hot bottles, hot sand, hot salt, or any other method which the exigencies and circumstances of the case may suggest. Should it be necessary to convey the patient some distance, in order to secure the best facilities for the restoration of breathing and warmth, the body should first be well wrapped in dry, warm clothing—the bystanders, if necessary, sharing their garments for the purpose.

Rule 6.—*Rub the whole body vigorously with the hand or with ho flannel.* This process adds heat to the system and aids in promoting respiration.

Rule 7.—*Persevere.* Be not discouraged by hours of apparently unsuccessful toil. Life may yet be saved.

Rule 8.—*Avoid all confusion, but hasten, hasten!* Every moment which passes unimproved is lost, and the hope of restoration dimmed, therefore *hasten!*

Remember that although these rules are placed in a certain consecutive order, it is not intended that this particular order must be strictly followed in every case. Indeed, all the various processes require as far as possible to be commenced and carried on simultaneously. And the labour should be divided among reliable hands. One attends to the tongue; one to the artificial respiration; two or three to the friction of the body; several to the supply of warmth.

Rule 9.—Should the effort be crowned with success, *place the patient in a warm bed, surrounded with plenty of fresh air, and as soon as he can swallow, give him hot milk, tea, or coffee.* Under no circumstances whatever, allow any fluids to be administered, unless the patient can easily and certainly swallow.

Contributions.

PHYSICAL EDUCATION.

BY A. H. MORRISON, GALT.

(Read before the Ontario Teachers' Association at Toronto.)

With regard to physical training, I think I am safe in saying that in our public schools, especially those in country districts, there exists a great necessity for the introduction of some definitely planned and well conducted system for corporeal development and muscular exercise in a certain direction—I say a certain direction, for mere bodily vigour, concentrated brute force, can be obtained irrespective of true physical culture, in a variety of ways; at the blacksmith's anvil, between the plough handles, swinging the woodman's axe, &c. Physical culture has for its aim, higher developments; strength and vigour unquestionably, but trained strength and systematized vigour; enduring hardihood certainly, but organized and educated hardihood; muscular development and physical prowess indubitably, but muscle companioned by grace, and prowess associated with dignity of comportment and elegance of motion. A sledge-hammer, though a powerful and a dangerous weapon, is but a blundering and plebeian instrument with which to perform the exploits of a hero on the battle field. The keen and polished rapier made of tempered steel, which will bend double at a twist of the wrist, has yet strength sufficient to accomplish the same end with infinitely less labour and with far better grace. What are we to understand by physical education? Why, the training of the body irrespective of the mind by certain well-fashioned laws of exercise. Exercise which indulged in tends to promote corporeal growth, to strengthen and develop nerve and muscle, to expand the lung system, to inure the body to hardships under which an unseasoned or debilitated frame would succumb, to fortify it so as to enable it to resist the insidious attacks of disease, to make it, in short, a fit tabernacle for the reception of a strong and useful intelligence, capable of permitting the full exercise of that intelligence, without endangering bodily health or mental acumen, able to defend itself in case of need from exterior inimical influences, and while accomplishing these objects, to acquire simultaneously grace, ease, dignity, to the end that a healthy human form may be rendered the fit associate of a healthy human mind.

I am hardly yet prepared to say whether I do or do not advocate the Darwinian theory. "There are more things in heaven and earth Horatio, than are dreamt of in your philosophy." I, in common with most of my countrymen, confess to prejudices of ancestry, I am ready and willing at any moment to believe that my paternal ancestor, in the long ago, was John of England, who was a murderer, a liar, a craven, and a renegade, or that I am maternally related to Boadicea, who was doubtless a half nude, wholly uncivilized, vindictive Amazon. Even Bloody Mary, the most despicable woman who ever assumed the English crown, would look well as an eighteen hundred and eighty-first cousin. I am not so certain whether a paternal gorilla or a maternal chimpanzee, however guiltless of treason, bigotry or blood thirstiness, would fit the easy chair of ancestry as well. But, joking aside, I *am* prepared to admit this at all hazards, that the orang-outang is the natural effect for natural cause. That the orang-outang is at best but a poor mathematician, natural, too, you will say. That the merest tyro of an orang-outang as an athlete would knock our doughtiest gymnast —if I may be allowed the expression —into a cocked-hat, and this, I presume, is natural also. I never heard of an orang-outang—unless in confinement—suffering from gout, indigestion or the blues, natural again, altogether natural; nature there is evidently the true mother, the true nurse, the true first preceptress, ergo, we should obey the teachings of nature and follow, physically, the example of the orang-outang; spend much time in the open air; take a large amount of exhilirating out-door exercise, run, leap, swing, climb, live temperately; religiously,—abjure strange gods, and the worship of individuals in creeds; socially,—renounce class prejudices and back-biting one's neighbours; morally—abolish whiskey stills and their associated evils; intellectually—reject competitive examinations as tests of scholarship and too much mathematics as an intellectual cultus, and go a step farther, wear a remnant besides our own hair. Pay school teachers decent salaries, and study the humanities but not to the perversing of our own intellect or the deterioration of our muscular system; of such folly even an orang-outang would be guiltless.

I must say I am an advocate for muscular christianity. I may add I am no admirer of an awkward, shambling gait. I have been lately led to ponder upon this subject of gait by the strange opinions which, during a residence of three or more years in the country districts of Canada, I have heard time and again formulated by country residents. There seems to be an idea prevalent that a perfectly upright, free, confident carriage, is inseparable from pride and self-conceit. This is no mere fancy, the sentiment has found expression in words over and over again in my hearing. Conversing one day with an old resident, our conversation happened to turn upon a young man of my acquaintance, a farmer's son, who had received a tolerable education, and who was by far the smartest looking young man about those parts. "Ah," said my companion, "he is too big for his cloth, he walks as if he owned the whole world." The stricture was a most unfair one.

I have not known whether to be more amused or angry at such utterances, promptings of an ignoble or perverted taste. I suppose it has become so much the fashion in country districts for youth to struggle from the cradle to the grave with "lack-lustre eye," and hand in "poke" that anything in the shape of an erect posture, swinging gait, and independent front, is looked upon as an abnormal and offensive state of being, a metaphorical challenge to personal combat or an unspoken assertion of physical superiority, and this because one presumes to lift his eye above the level of the rut and prefers to swing his arms in the glorious day light rather than bury one-half of them in the cavernous recesses of his breeches pockets. Now, I would ask, is an erect carriage a fault that it should be thus censoriously criticised by any section of a civilized community? In the beginning God made man, and he made him a little lower than the angels. He made also the beasts of the field. But observe the difference. He placed man erect, firm, planted in such a position that without effort or diminution of grace he could lift his god-like front and scan the heavens, the wide-spread epitome of all that is loftiest and most wonderful in the created universe, but the beast grovelling on all fours progresses ever with face to earth, its present home, and type of its grosser and irrational nature. Let me here put a leading question. Is an upright, dignified carriage consistent with healthy action, is it a thing to be desired in itself as a mere means of locomotion? With regard to the first point I unhesitatingly answer that there can be no really healthy action, no physical perfection without erect, free, open-shouldered carriage; and as to the second point I think it very much better to progress through life as though unburdened with any particular heavy load of conscience, than to grope from infancy to dotage in a position which might lead the uninitiated to suppose we were staggering under plethoric sacks of individual iniquities committed in the flesh weighing us to earth, or in the anticipations of our *particular* friends possibly still lower. I do not think I am using a too severe form of expression when I denounce the carriage of the majority of our country school-going

youth as slouching, and this careless, awkward, inelegant gait is obviously the result of a want of proper physical training. Where will you find a firmer tread or better port than in the ranks of the British army? As a stranger and an American has well said, "the British soldier has the swing of conquest," he should have said rather, he appears to have the swing of conquest, but it is in reality the swing of the parade ground and the drill shed. Yet from what class are the ranks of the British army largely recruited? Why, from the very class we have now under consideration, young men engaged in rural pursuits, whose gait, as I have had ample means of witnessing, is at least as clumsy and heavy as is that of the occupants of Canadian farm lands. A few months or years under the drill instructor, converts the green, shambling, ungraceful rustic into the trim, erect, alert warrior. A wonderful metamorphosis truly, and one which would have been still more thorough had the change been effected in earlier youth. I maintain that the erect position is the normal position of man; when the body is upright, the shoulders well back, the head erect, there is more room for the lungs to perform their office, the limbs fall more naturally into position, the vital functions of every member are more regularly performed, and this erect, easy, graceful and withal natural and healthy position can be acquired by training or can be lost for want of proper culture. I deem that in one sense at least men, with few exceptions, are born equal, with like physical instincts, with like corporeal parts, which can be educated and perfected. Why then do we see one man—say at the age of twenty-five—walking like a hero of romance and another at the same age slouching like a Californian hoodlum. Because, probably one has paid more attention to physical development, or has at least not been influenced by agencies antagonistic to such, the other has neglected physical culture or has had to follow a vocation inimical to healthy physical development. It has been a recognized axiom with all great thinkers, for many centuries, that bodily training should go on concurrently with mental exercise. Montaigne, a celebrated French moral philosopher who lived in the sixteenth century, was a strong advocate of physical culture. He says: "We have not to train up a soul nor yet a body but a man, and we cannot divide him." Locke, again, the author of the *Essay on the Understanding*, advises plenty of out door exercise, with plain food, and condemns the practice of straight lacing and tight clothing. Pestalozzi and Frœbel the great fountain heads of popular education combined, as you all know, intellectual culture with physical exercise in their methods of tuition; and Rousseau, in his treatise on education, says: "Nature has destined us for the offices of human life, antecedently to our destinations concerning society. *To live* is the profession I would teach him (alluding to a youth). *Let him first be a man;* he will, on occasions, as soon become anything else that a man ought to be, as any person whatever. Fortune may remove him from one place to another as she pleases; he will always be found in his place." It has thus become a recognized principle in all modern educational systems that no course of instruction can be regarded as thorough unless it includes some provisions for the exercise of the physical energies, as well as means for the development of the mental faculties. Granted, then, that physical training of some sort is an absolute necessity in our school curriculum, that the body must be developed concurrently with the mind. How shall we best effect this object?

In the consideration of Physical Education, taken in connexion with our Public School System, there are four phases of the subject which should come under discussion:—

1st. Position in school, sitting or standing.
2nd. Change of position in the school-room.
3rd. Systematic out-door exercise—gymnastics.
4th. Systematic out-door exercise—drill.

In thus dealing with the subject I pre-suppose suitable school accommodation, adequate ventilation, and every necessary appliance for at least personal comfort and healthful in-door action. I also take it for granted that when speaking of physical culture, all these influences are included in the term which combine to produce a healthy, vigorous frame with an active, graceful deportment. Assuming this much we may be readily enough led to apprehend that there are two phases of physical education, an indirect and a direct one; under the first aspect I propose to discuss Nos. 1 and 2 of my afore-named subdivisions, and under the latter, Nos. 3 and 4. But first I would like to define the term indirect physical education. It is simply this:—That positional training, which, without being *special*, is or should be conducted at all times concurrently with whatever other *special* subject of instruction may be the theme of discussion. It relates chiefly to attitude and personal demeanour in the class-room; position, in fact, when the body is absolutely quiescent, or when motion is limited to the simplest movements, made involuntarily for mere change of posture, or under the direction of the teacher for purposes of class recitation. What can be more painful to the senses of a disciplinarian upon entering a school-room, than to see one scholar sprawling over his desk like a gigantic human frog, and another huddled into a heterogeneous mass of flesh and small clothes, not unlike a sitting anthropomorphous hen. A third with legs extended or doubled under him, as the case may be, hands in the enevitable pockets, head sunk low between elevated shoulders, hair standing erect like quills upon the fretful porcupine, is contemplating with a malignant frown or a harmless stare of innocent vacuity three-eighths of a Third Reader or four-fifteenths of an authorized mis-spelling book. A fourth again with elbows on desk and head buried between hands, whose complexion eloquently though tacitly establishes the truth of at least one inspiration of Holy Writ,—"dust thou art, and to dust shalt thou return,"—or to mud pies, is evidently seeking to imbibe the rudiments of knowledge as the celebrated character in Dicken's "No Thoroughfare" imbibed moisture, through his pores, situated in this case at the extremities of those necessary and often denuded joints which now make dimples in the soiled and dog-eared page before him. Let us turn to a writing lesson. How often do we see our pupils with elevated shoulders, contorted nether limbs, crooked fingers and mouths to match, eyes close to book, painfully attempting to delineate characters which they find it impossible to form aright from the very perversity of their positions? But setting the possibility of correct penmanship aside, how injurious to health must these unnatural and inelegant positions be, what habits of laziness do they engender, and of what physical evils may they not be productive,—round shoulders, weak chests, defective vision. In standing classes the same evils in varied forms may be noticed. Here we have one ambitious youth striving might and main to emulate the grace and dignity of deportment of that amiable, if unpretentious, barn-yard fowl, whose cackling, we are told, once saved the Capitol, by balancing himself on one leg. There, a girl too enamoured with her sitting place to part with it entirely clutches the cross-bar with a fond desperation, or leans with *insouicant* ease against the side of the desk without whose friendly aid she would certainly sink enervate and prone to mother earth. So many men so many minds, seems here to be travestied, and so many pupils so many positions is the experimental apothegm of the hour. All this is wrong and demands remedying. I think it not too much to say that something of true physical culture can be communicated at the desk or in the recitation class. Scholars should be compelled to sit naturally, gracefully and easily, and to stand erect, heels together, toes out, shoulders back and head up; such training is but a preliminary step to the gymnasium or the drill ground.

Secondly: it is the fashion, in many graded schools, to permit scholars in the advanced classes to occupy their seats without change of position, save that incidental to purely mechanical desk movement, from the time they enter the class-room till the hour arrives for them to disperse for recess, or for dismissal. Does not this fashion of itself encourage in youth an idle, slovenly, often listless and sleepy habit? Speaking for myself, I feel it burdensome to sit in the same position for two hours together. I believe many of my professional brethren—voluntary students—will have experienced the same restless longing for a stretch and walk round after an hour or two's intense application to study. What then must it be for youth, lively, mercurial, energetic youth, to be thus cribbed and doomed to durance vile? They write sitting, they read sitting, arithmetic still sitting, geography, history, etc., all sitting exercises. I think that even with our most advanced classes such a course of sedentary discipline is hardly judicious. Change is a law of nature,

an imperative necessity with young nature, half of the school-room languor, ill-performed recitations, covert mischief, etc., more especially in sultry summer weather, is directly traceable to the inert and positively hurtful custom of planting our scholars like celery in trenches and dropping upon their devoted heads, loads, not certainly of earth, but of foul air, and leaving them to vegetate, and bleach, and assimilate all indigestible elements, without once stirring their inactive forms with the hoe of reason, or refreshing their stultified intellects with an enlivening douche from the can of common sense. I really think that movement, regulated, systematic, unostentatious movement, should be a feature of class routine from the lowest to the highest grades. Change of position, especially in warm weather, is essential to continual effort, healthy tuition, and alert open-eyed application. So much then for indirect physical culture, or the physical culture of the school-room, let us in the next place proceed to consider what means are to be adopted directly in furtherance of the same object.

(*To be continued*).

THE TONIC SOL-FA SYSTEM OF SINGING.

BY J. L. ROBERTSON, TORONTO.

The admirable introduction given to this subject in the brief article contributed by Professor T. F. Seward in the July number of the JOURNAL, has led those who are interested in it to desire a further insight into a system which has proved so popular, useful and easily acquired. As an experienced teacher of the system I can testify to the facts stated by the Professor; and as one of a choir subjected to a similar sight-singing test as that described in his article, can also certify to the value of the notation in that respect.

As a rule "popular" methods do not meet with cordial reception at British hands. The barriers which grow up around high art, and are defended with jealous care, must not be thrown down by iconoclasts who would admit the plebeian to the shrine where only the privileged few are permitted to worship; and a "royal" road to the cultivation of musical taste, and the enjoyment of a popular appetite for music was not to be thought of. Musical training was to be paid for smartly, and audiences and congregations should be content to listen and admire, but not to overstep the sacred boundary which fenced around the divinity. Such was the atmosphere in which the Tonic Sol-fa System was born, and it breathed the same for some years, but the indomitable perseverance of its projectors—among whom the Rev. John Curwen, of Plaistow, was the principal—sustained it until it grew strong enough to bear the chills of prejudice and contempt; and now it has attained a vigour which is beyond being influenced for evil. The winning charms of the method also have had such an effect on the public mind, that after over thirty years' trial, it has become an acknowledged national institution, has a well supported training college, and is endorsed by many of the leading musical celebrities of the day. In about two-thirds of the schools of Great Britain the system is taught, and in the majority of instances the members of the best choirs are Tonic Sol-faists. Mr. Curwen mentions the following as evidence of its influence:—"The music instructor to the London School Board, (England), on visiting the 120 schools under his direction, told the teachers that they were free to use what system they liked. He reports that 'all preferred the Tonic Sol-fa system.'"

"At the National Music Meetings of 1873, three out of the four prizes for mixed choirs were taken by Tonic Sol-fa societies. At the meeting of 1872 a Tonic Sol-fa choir won the only contested choral prize."

"The system is introduced by missionaries in all parts of the globe. It has been introduced in Madagascar, Cape Colony (for the Kaffirs and the Dutch), Hong Kong, Beyrout, Mount Lebanon, Fiji, South Africa, Bombay, Calcutta, Barbadoes, St. Helena, Norfolk Island, Spain, Japan, Burmah, Chili, &c., &c."

(See circular issued by Prof. Theo. F. Seward, Orange, N.J.)

It is not my intention to give a detailed history of the New Notation, as it is called, nor to write a complete series of lessons on the subject, but merely to enlist the sympathies of teachers on behalf of a system which proves itself to be all that is claimed for it; and to show that teachers do not need to be accomplished musicians to teach the rudiments of vocal music to the children of our schools.

Canadians are a music loving people. Many of the societies have well-trained instrumental bands; few respectable houses are without a piano forte or organ, if the proprietor can afford it, and nearly everyone possesses a singing voice, which is capable of being trained to much advantage. I am, therefore, led to think that in Canada a method of singing at sight which promises to help those who are desirous of attaining proficiency in a pleasing art, will be received with satisfaction, and be productive of good results in training the young. Teachers, especially, will find the work of imparting the knowledge of singing so easy and enjoyable that it will be their own fault if, by its means, school is not made more pleasant, the children more anxious to attend, and the drill movements more attractive.

The wonderful influence of music has been felt throughout all ages. Shakespeare says:

> "Music oft hath such a charm
> To make bad good," &c.

and viewing it in this light, it should be considered as a powerful agent in the work of education. The higher feelings are brought out by its power, and a child's better nature developed; the morality inculcated by the right sort of school songs is of the most lasting description; the tendency to counteract the evil effects of slang tunes, and senseless —often worse—diction, is of the greatest importance; while the refinement engendered by the cultivation of an art which

> "Hath charms to soothe the savage breast,
> To soften rocks, or bend a knotted oak,"

is apt to pervade the future life of the pupil, and make him an ornament to society and an elevator of the human race.

In the family vocal music commences with the lullaby; in society it is highly appreciated; in the place of worship almost indispensable; then why should it not be in the school-room, where the elements of all that is useful and accomplishing ought to be taught? Educationists agree that it should appear on the programme of school work; physicians unite in recommending singing for lung development, and, combined with physical exercise, nothing can be more healthful and desirable; parents like to hear their children sing, especially in harmony, if not, how do the piano fortes and organs get into the houses? Society, according to Shakespeare, requires it, for

> "The man that hath no music in himself,
> Nor is not mov'd with concord of sweet sounds,
> Is fit for treasons, stratagems, and spoils;
> The motions of his spirit are dull as night,
> And his affections dark as Erebus:
> Let no such man be trusted."

Why not in the school-room? Because the art is surrounded by so many formidable difficulties that teachers, with few exceptions, would rather teach Greek Prosody or the Differential Calculus than attempt to investigate the intricacies of clefs, signatures, and the dominant seventh! My respect for the staff notation is too great to allow it to be thought that the Tonic Sol-fa is designed to supersede it; on the contrary, I consider the latter the most successful stepping-stone to a correct and intimate knowledge and analysis of the former. Nine-tenths of those who learn the Tonic Sol-fa are able to sing nearly as well the notes of the five-line system at sight, for they use the new notation to translate the old by a rapid and easy process. By its means the insurmountable difficulties presented in the established notation melt away, the hieroglyphics become intelligible, and the bright dawn of hope illumines the previously dark, mysterious music sheet. However, the Tonic Sol-fa is complete in itself, and the works of many of the great masters have been translated into it, as well as difficult cantatas, oratorios and choruses. By means of this popular system the music is read as easily as ordinary reading, and is learned much more quickly, even by young

children; while the fact of their grasping the means of learning to sing at sight, possesses such an attraction that they, as well as *grown-up* children, are frequently quite infatuated with it.

The Tonic Sol-fa system being only an interpretation, possesses no new principles, it only renders intelligible what was hitherto indistinct and difficult of comprehension. It has, obviously, several new features, and at first sight seems so entirely different from the appearance of music, as we have been accustomed to see it, that persons looking at it superficially cannot imagine how music can be produced from it. Its simple arrangement is its beauty; and a short study will convince anyone, not a sceptic, that the plan and development are really those of a *natural* system, adapted to the language, and suited to the capacity of persons, old or young, who possess a correct voice and ear, and a moderate amount of education.

The characteristics to be observed by learners of this system are:

1. *The Mental Effects of Tones in Key.*
2. *A Movable Tonic or Key-note.*
3. *Linear Time Measurement.*

I shall discuss these in order.

(1). The effect produced on the mind by certain sounds is so well known that it is needless to particularize, except in the case of musical sounds. The baby-song soothes the infant to sleep with its soft and gentle cadence; the martial clang and clash of brazen throats excites the soldier to daring deeds of valour; the sorrowful wail of minor chords brings a sigh or a tear, and calls up sad and tender feelings; the jubilant tones of cheerful, joyous voices ringing wildly out, tingle a chord in the breast of the misanthrope, and, for the time being, he resumes his membership in the human brotherhood. Pathetic, joyful; martial, soothing; sad, gay; defiant, cheering; commanding, appealing—all owe their peculiarity to the prevalence of the particular note or tone in the scale which chiefly enters into the composition of the piece of music and gives a colouring, so to speak, to the whole.

Every teacher knows that sun-light is capable of being analyzed into seven distinct colours, as in the rainbow, or produced artificially by the prism. These colours are perceptible to the organ of sight, except in the case of those who are colour-blind, and in a similar manner each of the notes of the musical scale produces an "ear-colouring," or mental effect perceptible to the organ of hearing of most persons, when sung slowly, in its relation to the key-note. Mr. Seward, in his introduction to the "Tonic Sol-fa Reader," says:—"A new and interesting application of Sol-fa principles is now being made by Mr. Daniel Batchellor, of Boston, in the Kindergarten work. Mr. Batchellor was a well-known Sol-fa teacher in England, having taken the Advanced Certificate at the Tonic Sol-fa College of London. After his arrival in Boston, several years ago, he devoted considerable time to the Kindergarten work, and developed a very ingenious method of teaching tones by colours. His method has attracted much attention among prominent advocates of the Kindergarten system, as it adds a new educational element to that work."

It is this "ear-colouring," or mental effect, which enables the learner to sing any note which is pointed to on the modulator, or which he desires to produce, when the key-note is established in his mind; and by diligent practice in producing these notes independently he can sing them correctly when they are named, or when he sees the initial letter which distinguishes them. This is the first and most essential point in the study, and perhaps the most difficult; when that is reached, which is not long if the learner persevere, the Tonic Sol-fa pleasure-ground is opened. In introducing the Modulator, I may here state that the names of the notes are the Anglicized forms of the Italian Do, Re, Mi, Fa, Sol, La, Si; the last being changed to Te, which is more expressive, and has the advantage of possessing an initial letter which cannot be mistaken for Sol. The *l* is dropped in Sol, to preserve the full vowel sound.

To sing the scale we may start from a low tone, say middle C or D struck on an organ or piano forte, calling it DOH, and after sounding it two or three times to get it fixed in the mind, we may proceed to the next note upwards, RAY, and so on till we reach the octave DOH[1]. In doing this we observe, (*a*) that there is a resting or firm note from which the others extend; (*b*) that each note, as we regularly advance, has a different effect on the ear when sung slowly and not too loudly; (*c*) that when we reach the seventh note the ear is not satisfied to allow us to cease singing until the eighth note is reached; (*d*) that ME and FAH, TE and DOH[1], that is, the third and fourth and seventh and eighth in the scale, seem to be closer together than any of the other two sung consecutively; (*e*) that the eighth note, DOH[1], corresponds in sound and effect with the first.

The simple names of the notes, technical names, positions in the scale, and description of mental effects are as follows:

THE MODULATOR OR ALPHABET OF MUSIC.

MAJOR CHORD NAMES.		MENTAL EFFECTS OF THE NOTES.
	– s[1] –	
	– f[1] –	
	– m[1] –	
	– r[1] –	
Octave	– DOH[1] –	
Sub-tonic or leading.	– *TE* –	Piercing or sensitive tone. *Leading effect* (to tonic).
Sub-mediant	– *LAH* –	Sad or weeping tone. *Melancholy effect.*
Dominant	– SOH –	Grand or bright tone. *Martial or gay effect.*
Sub-dominant	– *FAH* –	Desolate or awe-inspiring tone. *Appealing effect.*
Mediant	– ME –	Steady or calm tone. *Soothing or pleading effect.*
Supertonic	– *RAY* –	Rousing or hopeful tone. *Cheering effect.*
Tonic	– DOH –	Strong or firm tone. *Resting effect.*
	– t_1 –	
	– l_1 –	
	– s_1 –	

The person who imagines that by singing the notes of the scale up and down regularly and correctly he is learning them, is just as much deluded as he would be if he taught the letters of the alphabet to a child by consecutive repetition from A to Z, and *vice versâ*. The child should be instructed how to distinguish C from G, or B from R, and so on, thus securing mental effort in discrimination, and avoiding parrot-like routine. In the same manner the Modulator is to learned by the discrimination of the ear, so that the mental effect of each note will become discernible to such an extent that when it is sung slowly by another—the key-note, or Doh, being previously given and firmly fixed in the mind—he will be able to distinguish and name it readily. In the early stages it is always better to commence with **Doh**, then find out any other note that the learner desires, say **Soh**, and by observing its effect, practice for some time that note with the key-note, thus—**d , s , s , d ; s , d , s , d ; d , d , s , s , s , s , d , d .** When **Soh** is firmly established in the mind, another note, **Me**, may be introduced, and exercises on the three performed in the same manner, &c.* In this way an intimate knowledge of the different tones may be acquired, and their production made easy and certain. Frequent practice on the Modulator is *indispensable* in all stages of the learner's course. "The Modulator," writes Prof. Seward very forcibly, "takes the place of the *Staff* in the common notation. It stands behind every note we see in the book. From habitual use of it the mind's eye always sees it there. It is our 'pictorial symbol of tone relations.'" When it is mastered the notes seem to be no longer in one continuous line, but to place themselves in imagination in relative positions on a Modulator in the mind, and the voice naturally follows the direction on the mental vision. The proper sound of the note also allies itself so closely to its name that merely singing the name leads to singing the correct sound attached

* Prof. Seward's book, "The Tonic Sol-fa Music Reader," gives full instructions on this subject, and contains quite sufficient information for a complete elementary course.

to the name, and it is this peculiarity which enables the practised learner to read the music fluently, in short, resolves it into ordinary reading.

In the above modulator, which is given to show only the tone relationships in a single key, it may be observed that the *upper* octave notes are distinguished by a figure (^{1}) placed towards the *upper* part of the initial letter; in the *lower* octave towards the *lower* part ($_1$).

The following Modulator exercise has no indication of time, and each note may be sung slowly at first and afterwards faster, taking care that the same number of regular beats, made by moving the hand up and down or by tapping on the table, be given to each :—

Doh (or key-note) is C.

d d m m d m s s m m s m d s m d

m s s m m d m s m d s m d s d

Take D for key-note and perform the same exercise, also E and F.

(*To be continued*).

Examination Questions.

JULY EXAMINATIONS, 1881.

FIRST CLASS TEACHERS.—Grade C.

ARITHMETIC.

Time—Three Hours.

Examiner—J. C. Glashan.

1. Examine the merits of the following test of the accuracy of a sum in addition :—"Divide the sum of the digits in each horizontal line by 9, retaining only the remainders; divide the sum of these remainders by 9, and if the remainder then obtained be equal to the remainder obtained on dividing the sum of the digits in the answer by 9, the answer is correct."

Will the rest apply if "vertical lines" replace "horizontal lines" in the preceding; and if so, why?

2. A man sells goods for $1125. Half he sold at an advance of 25 per cent. on the cost, two-fifths at an advance of $12\frac{1}{2}$ per cent., and the remainder at half cost. What did he originally pay for the goods?

3. If four pumps, each having a length of stroke of 3 ft. and piston radius of 3 inches, empty a cubical cistern whose side is 6 ft., in 1 hour; what must be the radius of the piston of each of 6 pumps whose stroke is 4 ft., that they may empty a cistern whose sides are half those of the former in $\frac{5}{8}$ of an hour, there being a defect in the latter pumps which takes away 10 per cent. of their efficiency?

4. A tax bill for $291.60 may be paid in three instalments—$111.60 on June the 25th; $90 on August the 4th; and $90 on October 4th. If all be paid on June 25th a reduction is allowed of $\frac{2}{100}$ of the instalments that might have been deferred. What rate per cent. per annum is this allowing for money?

5. A bankrupt's apparent assets are 80 per cent. of his liabilities; but on $20,000 of these assets he recovers only 80 cents on the dollar, and 4 per cent. of the amount the estate actually realizes is consumed in the process of winding it up. He pays 60 cents on the dollar; what were his liabilities?

6. A. gives B. $210 on May 11th, and in return takes his note at 5 months, agreeing not to exact interest. On June 11th, A. sells the note to C. for $205, and B. makes good to A. the $5 so lost. When the note falls due, C. exacts interest at 7 per cent. per annum. Find the rate per cent. per annum gained, lost or paid by the several parties to this transaction.

7. A municipality whose property is assessed at $1,000,000 borrows $40,000; find an expression for the tax (rate in the dollar) that must be levied to form a sinking fund that will repay this in 10 years, money being worth 6 per cent. per annum, the taxes being levied yearly and money compounded half yearly.

8. The sides of a triangle are 4, 5, 6; find its area.

9. Eight equal spherical iron balls, radius 1 foot, are just enclosed in a cubical box, and the box is then filled up with water. Compare the weights of iron and water in the box, the specific gravity of iron being 7·79.

Give the expression for the surface of a sphere in terms of its radius.

10. Show how to determine the surface of a right circular cone. The height of a frustrum of such a cone is three feet, radius of two feet, and semi-vertical angle 30°; find its surface. If this surface were made of paper, and, being cut from the cone, were spread on a flat surface, find the dimensions of the curve formed by what was the bottom edge of the cone.

ALGEBRA.

Time—Three Hours.

Examiner—Alfred Baker, M.A.

1. If $x^2+y^2+z^2+2xyz=1$, then

$$z\{(1-x^2)(1-y^2)\}^{\frac{1}{2}}+x\{(1-y^2)(1-z^2)\}^{\frac{1}{2}}+y\{(1-z^2)(1-x^2)\}^{\frac{1}{2}}=1+xyz.$$

also,

$$\left\{\frac{1+x+2yz}{1-x}\right\}^{\frac{1}{2}}+\left\{\frac{1+y+2zx}{1-y}\right\}^{\frac{1}{2}}+\left\{\frac{1+z+2xy}{1-z}\right\}^{\frac{1}{2}}=\frac{x+y}{1-z}+\frac{y+z}{1-x}+\frac{z+x}{1-y}.$$

2. Solve the equations

(1). $x^2+4xy+y^2=13=8xy-7x^2+y^2$.

(2). $(1+x)^{\frac{2}{n}}-(1-x)^{\frac{2}{n}}=(1-x^2)^{\frac{1}{n}}$.

3. If a be a root of the equation $f(x)=0$, then $x-a$ is a factor of $f(x)$.

The equation $4x^3-52x^2+49x-12=0$ has two equal roots; find all the roots.

The roots of the equation $x^4-10x^3+32x^2-38+15=0$ are of the form $\alpha+1$, $\alpha-1$, $\beta+2$, $\beta-2$; find all the roots.

4. Sum the series

$$1^2+2^2+3^2+\ldots\ldots+n^2.$$

5. Show how to find the sum of an Arithmetical Progression, having given the first term, common difference, and number of terms.

Sum to n terms the series whose first term is a, and the successive differences b, $2b$, $3b$, ...$(n-1)b$.

6. Sum to n terms the series

$$1+3x+5x^2+7x^3+\ldots\ldots$$

If the natural numbers be divided into groups 1, 2+3, 4+5+6, &c., find the sum of the nth group, also the sum of the first n groups, and thence deduce the sum of $1^3+2^3+3^3+\ldots\ldots\ldots+n^3$.

7. Find the number of combinations of n things, r together.

On a shelf are 20 books, of which 5 vols. are of one set, 3 of another, and 2 of another, and the rest are odd books; find the number of different arrangements that can be made with them, each set being kept intact, though the order of books in it may be changed.

8. Two equal circles touch a straight line at A and B, and do not intersect, and on each of them at equal intervals are situate $2n+1$ points, A and B being such points. The only lines that contain more than two of the points are those that are parallel to AB. Find the number of triangles that can be formed by joining these points, both circles being utilized for each triangle.

9. Show how to determine the greatest term in the expansion of $(a+x)^n$.

10. (1) The coefficient of x^r in the expansion of $(1-x)^{-\frac{3}{2}}$ is $\frac{\lfloor 2r+1}{(\lfloor r)^2}\cdot\frac{1}{2^{2r}}$.

(2). If a_r be the coefficient of x^r in the expansion of $(1+x)^n$, then, n being a positive integer,

$$\frac{a_1}{a_0}+\frac{2a_2}{a_1}+\frac{3a_3}{a_2}+\ldots\ldots+\frac{na_n}{a_{n-1}}=\tfrac{1}{2}n(n+1).$$

EUCLID.

Time—Three Hours.

Examiner—Alfred Baker, M.A.

1 Where would the difficulty in the theory of parallel lines present itself, if they were defined to be such that a transversal falling on them made the alternate angles equal?

2. If there be two straight lines the rectangle contained by their

sum and one of them is equal to the square on that one together with the rectangle contained by the two straight lines.

3. In any triangle the squares on the two sides are together double of the squares on the half the base and on the straight line joining its bisection with the opposite angle.

If a point be taken such that the sum of the squares on the lines joining it to the angular points of a square is equal to three times the square itself, the locus of the point is a circle whose diameter is equal to a side of the square.

4. The angle at the centre of a circle is double the angle at the circumference upon the same part of the circumference.

Hence shew that the angle in a segment less than a semi-circle is greater than a right angle, and in one greater than a semi-circle is less than a right angle.

5. If a point be taken within a circle the rectangle under the segments of any chord through it is constant. Prove only the general case.

Given the vertical angle and base of a triangle, and also the rectangle contained by the difference between the other two sides and one of them, construct the triangle.

6. Describe a circle to touch three given straight lines.

If the three points in which an escribed circle of a triangle touches the sides be joined, the triangle so formed will be obtuse-angled.

7. AB is a given straight line, C its middle point, and D another fixed point in it. CE is drawn at right angles to AB and in it any point F is taken; FD is produced to G, so that as F changes its position in CE the rectangle FD, DG is always equal to the rectangle AD, DB, shew that the locus of G is a circle.

8. Triangles of the same altitude are one to another as their bases.

Triangles are to one another in the ratio compounded of the ratios of their altitudes and bases: prove this after the manner of Euclid.

9. To describe a rectilineal figure that shall be similar to one and equal to another given rectilineal figure.

CHEMISTRY.

TIME—ONE HOUR AND A HALF.

Examiner—E. HAANEL, Ph. Dr.

1. It can be demonstrated that the flame of a Bunsen gas lamp becomes non-luminous, whether the gas allowed to mix with the coal gas in the long tube of the lamp be common air, carbon dioxide or pure nitrogen. Show that this fact is *not* in harmony with the received theory, accounting for the nature and structure of flame.

2. At 26°C. the density of nitrogen tetroxide approaches 46. How should the formula for this compound be written to correspond to this density?

3. Required to prepare nitrogen monoxide from ammonium nitrate:

(*i.*) Write out the equation representing the reaction occurring in its preparation.

(*ii.*) Represent by diagram the apparatus required for its elimination and collection.

(*iii.*) Name the properties of the gas.

(*iv.*) State what precautions must be observed in preparing this gas, when intended to be used for inhalation.

4. As the result of a certain experiment, it was found that 50 litres, measured at 5°C. and 758^{mm}P., of a mixture of oxygen and ozone, containing 18 per cent. of the latter, when allowed to bubble through a solution of hydrogen dioxide, were just sufficient to completely decompose it. Calculate from this data the quantity of hydrogen dioxide present in the original solution.

5. Write out the atomic and molecular equations representing the reactions occurring in the preparation of—

(*i.*) Oxygen from potassium chlorate.

(*ii.*) Hydrogen from water by the action of sodium.

(*iii.*) Nitrogen tetroxide by mixture of nitrogen dioxide with oxygen.

6. Contrast the properties of oxygen, phosphorus and sulphur with those of their respective allotropic modifications.

7. Write out the formulæ for the following compounds;—Sodium chloride, sodium hydroxide, sodium oxide, calcium chloride, calcium hydroxide, calcium monoxide, aluminium chloride, aluminium hydroxide, alumina, potassium nitrite, potassium nitrate, potassium sulphite, potassium sulphate, potassium iodide, potassium iodate.

HEAT.

TIME—ONE HOUR AND A HALF.

Examiner—E. HAANEL, Ph. Dr.

1. Define the term "linear co-efficient of expansion," and show how the cubical co-efficient of expansion of a solid may be found by calculation from its known linear co-efficient. Describe also a method for the *direct* determination of the cubical co-efficient of expansion of a solid.

2. If 120 cubic units at 10°C. become $128\frac{8}{9}$ cubic units when raised to 40°C., what is the cubic and what is the linear co-efficient of expansion?

3. (*i*) Describe fully the process of accurately determining the fixed points of a mercurial thermometer.

(*ii.* Reduce 28°C. to the *F.* and *R.* scale, and—13°R. to the *F.* and *C.* scale.

4. Define the term "specific heat," and describe the "method of mixture" for determining the specific heat of a substance.

5. A piece of metal weighing 809.06 gr. heated to 100°C was immersed in 2000 gr. of water at 0°C. The resulting temperature was found to be 4°C. Calculate from these data the specific heat of the metal.

6. If two pounds of ice at 0°C. be mixed with 5 pounds of water at 61°C., what will be the temperature of the mixture?

7. One pound of saltpetre at 15°C. is dissolved in 8 pounds of water at 15°C. Does any change of temperature take place? Give reasons for your answer.

8. In order to bring a beam of dark heat to a focus by means of a double convex lens, of what material should the lens be constructed? Give reasons.

ELEMENTARY MECHANICS.

TIME—THREE HOURS.

Examiner—J. C. GLASHAN.

1. Define a Couple, and shew that the forces composing one do not admit of a single resultant.

State the various transformations that may be made on a couple without alteration of effect. Establish the truth of one of them.

The sides of a quadrilateral are acted on by forces perpendicular to them and proportional to them in magnitude, the forces being turned inwards. Show that if the points of application divide the sides in a constant ratio they reduce to a couple.

2. Find the centre of gravity (1) of a triangular area; (2) of three uniform rods forming a triangle.

In the latter case, if the system be suspended by a string attached to a point in one of the sides, find the position of the point that the triangle may rest with one side vertical.

3. State Newton's Laws of Motion, and explain the nature of the reasoning by which they are arrived at.

Shew how the second and third enable us to exhibit dynamic phenomena by means of equations.

4. (1) A gun (wt. 3 tons) rests on a plane of inclination 30° to the horizon, being pointed downwards parallel to the plane; a shot of 60 lbs. is discharged from it with a velocity of 1500 feet per second. Find how far up the plane the gun will recoil.

(2) Two weights of 5 and 10 lbs. are attached by a string, the heavier hanging vertically from the edge of a smooth horizontal table on which the lighter rests. Determine the motion.

5. The normal pressure on a surface exposed to the action of a fluid is equal to the pressure on a plane horizontal surface of equal area at the same depth below the surface that the centre of gravity of the first surface is, gravity being the only force acting.

A tetrahedron whose faces are equilateral triangles is just filled with fluid and has three of its corners in a horizontal plane; shew that when the fourth is above this plane the total pressure on all the sides is three times the total pressure when this corner is below the plane.

6. When a body is immersed in a fluid it loses a portion of its weight equal to the weight of the displaced fluid.

A sphere of radius a is composed of a substance n times heavier than water; find the radius of a spherical portion that must be hollowed from its inside that it may float in water with $\frac{1}{n}$th of its volume above the surface.

HISTORY.

TIME—THREE HOURS.

Examiner—JOHN WATSON, M A., L.L.D.

(*Only* SIX *of these questions are to be done.*)

1. Describe the circumstances which led to the invitation to England of William of Orange, and explain the considerations which induced him to accept of it. State the causes of the discontent which followed his accession.

2. Explain the advantages over the old system of Sunderland's plan for choosing the Ministers of the Crown.

3. Give the substance of the statute of Edward III. as to High Treason. Point out its main imperfection, and show the strained constructions to which that imperfection gave rise. What improvement was effected by the statute of William III.?

4. Explain the political significance of the impeachment of Sacheverel. What light does the trial throw on the distinctive principles of the two great parties in the state ?

5. What was the object of the War of the Great Alliance ? How far was that object realized by the Treaty of Utrecht ? Give the arguments for and against the Peace.

6. State the causes which tended to prevent the final Union of England and Scotland ; the terms on which the Union took place, and the benefits flowing from it.

7. Explain the policy of George III, and describe his relations with successive Ministers. What constitutional change was brought about by his policy ?

8. Describe the political condition of the American Colonies on the accession of George III, and explain the causes which led to their separation from England.

9. Trace the progress of the principle of Religious Toleration from the Revolution to the reign of George III, and describe the changes in the social and religious condition of the people produced by the Religious Revival of Whitfield and Wesley.

10. Give a short account of the industrial progress of England in the eighteenth century, mentioning the chief inventions. What is the main principle underlying the "Wealth of Nations ?" Describe Pitt's financial policy, and point out its political results.

ENGLISH LITERATURE.

TIME—THREE HOURS.

Examiner—J. M. BUCHAN, M.A.

1. BRU. It must be by his death ; and, for my part,
I know no personal cause to spurn at him,
But for the general. He would be crown'd—
How that might change his nature, there's the question.
It is the bright day that brings forth the adder, 5
And that craves wary walking. Crown him ?—That ;—
And then, I grant, we put a sting in him,
That at his will he may do danger with.
The abuse of greatness is when it disjoins
Remorse from power. And, to speak truth of Cæsar, 10
I have not known when his affections sway'd
More than his reason. But 'tis a common proof
That lowliness is young Ambition's ladder,
Whereto the climber-upward turns his face ;
But when he once attains the upmost round, 15
He then unto the ladder turns his back,
Looks on the clouds, scorning the base degrees
By which he did ascend. So Cæsar may :
Then, lest he may, prevent. And, since the quarrel
Will bear no colour for the thing he is, 20
Fashion it thus : that what he is, augmented,
Would run to these and these extremities ;
And therefore think him as the serpent's egg,
Which, hatch'd, would, as his kind, grow mischievous,
And kill him in the shell. 25

—*Julius Cæsar, Act ii., scene* 1.

(*i.*) Explain the meaning of 'general' and 'would,' l. 3.

(*ii.*) Develop fully the comparison implied in ll. 5 and 6.

(*iii.*) *And to speak truth, etc.* What is the connection in thought between this sentence and what precedes ?

(*iv.*) What is the meaning of 'proof,' l. 12 ?

(*v.*) *And, since the quarrel.....extremities.* Paraphrase so as to express the meaning fully.

5. Sketch briefly the characters of Antony and Casca in the play of Julius Cæsar.

3. Compare the burghers of Stirling, in the Lady of the Lake, with the citizens of Rome in Julius Cæsar.

4. In what respect does the character of Scott's literay work most closely approach that of the work of Shakespeare ?

5. Give an account of the contents of the last canto of the Lady of the Lake.

6. Reproduce, in your own words, Addison's account of Sir Roger de Coverley's visit to Westminster Abbey.

7. State clearly on what Dr. Johnson's fame principally rests.

Selections.

HEALTH THROUGH EDUCATION.

BENJAMIN WARD RICHARDSON.

Address delivered at the Conference on Education, held in the Rooms of the Society of Arts, January 16, 1880.

Concluded from last Month.

A second point in relation to mental health in education to which I would wish to draw attention relates to the constitution of the body, the stamina of the body—to use a good and expressive term—for work of mind. Just as children of quite different mental stamina are set to the same labours, and are expected to do the same kinds of labour with equal success, so in like manner children of different bodily stamina are expected to do the same labours, and to produce out of them the same results. No error can be more fatal. The class is under the eye of the teacher, in line before him. In one sweep of vision, if the class is a large one, he takes in all the diatheses, all the deep constitutional tints and taints of disease. If he swept his fingers over the keys of a pianoforte he could not detect a more definite series of regular changes.

There is the child with blue eye, light flaxen hair, fragile form, pale cheek, finely chiselled ear, delicate hand, quick apprehension, and nervous, almost scared, nature. That child can be taught almost anything and everything. It may be a very ambitious child, but it is easily put down, and it is always, on the least emotion, vibrating or palpitating. It is the type of the true tuberculous child. You will find of a certainty that some members of its family have died of tuberculous disease in one or other of its forms, most likely of pulmonary consumption. This child may be precocious to an extreme degree, may lay up learning like water, and become morbid in the acquirement of knowledge, but it is always vibrating and constitutionally feeble.

There is another, of the same general construction, but of much coarser mould, an obviously defective chlld, with nothing to fascinate ; a head probably a little misshapen, the crown somewhat raised and pointed ; the face pale ; the eye blue or bluish-grey ; the ear not well shaped ; the hair stiff, so that it has to be cut short to look passable ; the hands large and clumsy ; the mind rather stolid, and not over appreciative, but fairly steady at work; the manner subdued and obedient ; the nature trusting, but somewhat selfish, and often fretful. This is the type of the strumous child. This child can never work with zest ; it has no precocity ; when it labours hard, it soon becomes as it were benumbed, and the firmest teacher bids it go out and run, or lets it sit down and sleep.

There is another type in the class equally distinctive. The head is large ; the face large and probably ruddy ; the lips large ; the eye grey or a light blue ; the hair reddish brown ; the ear large with a big lower lobe ; the hands big ; the body inclined to be plump and the joints large and clumsy. The minds of this type are slow, but at the same time receptive, they are good-natured and heavy, but they bear disappointment badly, and punishment of all kinds *very* badly. Neither much work nor much play is in them. These are

types of the rheumatical diathesis. You would find in them, as family physical taints, rheumatism, neuralgia, gout, as direct conditions of natural habit; and epilepsy, chorea Sancti Viti, heart-disease, and dropsy as the secondary or indirect manifestations of the primitive taint which they have inherited.

There is a fourth class, most distinct from all the foregoing: a type of child in which the body is small; the head, by comparison, large; the eyes very dark; the complexion swarthy; the hair dark; the lips large; the nose large; the ear large, and the lower lobe pendulous; the body either very small and fragile, or of a size above the usual; the mind appreciative, absorbing, reticent, and self-retained, with a keen sense of its own individual interests, but with small sympathies, and with brooding imagination. This child is a type of the true bilious temperament. It has always in it some blood born of a tropical clime: it has great capacity for work of a mental order, and often for varied work of that kind. It is a type of a child fairly healthy during childhood, but suffering often from dyspepsia, ague of the face, small eruptive swellings, and frequent depression of spirits, amounting sometimes to actual sadness. It has a very limited capacity for all muscular efforts involving the qualites of endurance and courage, but is devoted usually to music, and is gifted with musical and artistic ability.

Lastly, amongst the really prominent types, there is the scholar of low mental capacity altogether, and by physical condition incapable of illustrating the active working mind. The children of this type are usually either of small or of very gross build of body. They are unduly pale and fragile; they have irregular or notched teeth; compressed features; very scanty and dry hair; often some bodily deformity, such as strabismus; diminutive heads; and a feeble, sluggish circulation. These constitute, mainly, the class of children whom I have described in my work "Diseases of Modern Life" as children in whom idleness is a veritable disease. You may do what you will with them, you cannot make them work; you may pet them, encourage them, punish them, they are the same. They grow up listless and helpless, and as a rule die of some organic disease of a nervous character before they have reached the full meridian of life.

I have drawn out sharply five classes of types. In these there are various shades and qualities. In the first class there is now and then a specimen of great mental strength, and often of great physical beauty. In the second, there is often extreme vigour of mind, brightness and tenacity. In the third class there are, as a rule, many specimens in which both mind and body are active and powerful. In the fourth the mental power is frequently excellent and strangely analytical in its character. Of the fifth I need say no more than has been said.

In large schools with the scholars of which I have come in contact it has occurred to me to observe all the distinctive types and shades of type here named, and a few times in science-teaching I have been able to compare and test in a fair way the mental by the side of the physical characteristic. Those who are teachers know these classes as well as I do, I dare say a great deal better, though they might not like to define them so minutely. I define them because I want to enforce this grand truth, that it is utterly hopeless for parents to expect the teachers of their children to produce great results while the system is enforced of teaching all these children on one uniform system, and while the teacher is debarred the privilege of forming a judgment of capacity in respect to the individual scholar. There can be no mental health in education while pupils of the last class I have named are put in order with those of the first and third. There can be no mental health in education while the brightest and the quickest of the first class, the precocious of that class, are allowed to indulge their precocity for learning, and are trained into an ambition which almost of a certainty will, in a very few years, imperil both their mental and their physical organisation.

The practical lesson I would enforce is that the teacher and the parent of the child taught should have between them a better understanding in relation to the mental and physical capacities. The quick precocious child of the first class may, under pressure, be taught anything, but the exertion of pressure at the risk of future disease of the most fatal kind. The child of bilious temperament may be taught with difficulty, but the effort to teach it may be the most useful in arousing its physical powers into new and active life. The first can be killed through the brain, the second can be saved through it. While, in respect to the last-named class, the class of child in whom the brain-cement is so consolidated that there is no free cellular activity, every attempt to overcome inertia, may be the very means of increasing and intensifying inertia.

From the reflections which arise after the study of these different classes of children, I am next led, in thinking over the matter of mental health in education, to touch on the subject of limitation of work in youth. The more I see of school labour, the more certain I become that the strain commonly put upon the youthful mind is altogether opposed to health. It is a matter now of nearly daily task for me to have to suggest relaxation or removal of the young from school or student labour, on account of health. In these days no organs of the body are forced so much as the brain and the senses which minister to it.

There are two reasons for this cause of evil action.

The first reason is the utterly absurd general opinion that the period of education is to be limited by the periods of life, and that with the attainment of the majority the day of learning has ceased. If we could get over this transparent yet all but universal fallacy, we should do more to regenerate the world than by any other effort of an educational character. We could then make life a continual feast of learning. We could fill the vacancies between business and rest, vacancies which are now filled often by the most poisonous and injurious pursuits, called pleasures—pleasures which satiate by their repetition and ruin by their inanity; we could fill these vacancies with delights of new worlds of knowledge which, ever changing, were ever bringing new spirit and wholesome repose. We should do far more than this—grand as the prospect of cultivating an unwearied life may be—we should take off the strain from the young brain, when all the natural powers are required, not for the using up of the brain in the service of learning, but for the service of the brain itself, for its own growth and development and preservation.

My view is that the duties of the teacher and of the learner in relation to learning should never cease, but that the aim should be to discover in what periods of life such and such processes of learning are best cultivated, and to make life divisible into periods devoted to the attainment of certain phases and forms of knowledge. I take the case of one I know best. He, when a boy, had great powers of memory for words and discourses and poetry, but had little power of memory for dates and details. When he was thirty that power of memory by committing to heart began to fail, but the power of memory for details improved in a surprising degree, so that he could without an effort learn new sciences which before were to him closed books. Later on in life he found, in like manner of change, a facility for artistic learning and for the study of forms of which earlier in life he had no notion.

What is true in this one case is, I believe, true of men generally. The man I refer to has, in later life, simply found it easy to acquire that which was not by force forced upon him, and thereby forced out of him, in early life, so that in many ways he would actually like to pick up his satchel and go to school again. We want this finding extended generally. If we could take off the pressure of early mental training, so as to improve the mental health of education, we should in turn improve the method of education. We should do this in various ways. We should limit time so that boys under twelve would not be pressed with more than four hours of work, and girls with not more than three hours, daily. After this we should apportion more and more of time for work, until the maximum of six hours for either sex was obtained.

In other ways we should conserve. We should not strive to teach by short cuts and clever devices until such short cuts and

clever devices become more complicate and laborious than the subject itself which is taught by them. I give one example, and that only, of what I mean. There is a book recently published, called a Latin Grammar, in which the Latin language is tried to be taught—for I presume teaching is the aim of the composer—by rules which are, to my mind, much harder to learn than the language. To make these rules facile, they are illustrated by doggerel verses so atrociously bad that they make the flesh creep to listen to them. They would have knocked all the verse out of Shakespeare himself had he been tortured with them. The object, I am told, is "short-cut." To enable many facts to be taught in a short time, it is requisite to artificialise the mind with foreign matters, in order to make it take in more: therefore so much brick rubbish is used on which to lay an unsound foundation for an edifice that is not intended to stand beyond the majority of its owner, but which is fully expected then to fall to the ground or to remain a useless ruin. So the minds of grown-up men are filled with the ruined edifices of learning, shapeless, empty and valueless.

To the errors which are thus cultivated by the crush of education in early life, and which breed a dislike for education in after-life, there is added, in our modern systems, another error—that of making learning, which should be as quiet as a mill-stream, competitively furious. I confess I stand daily appalled at the injury to mental and physical life which I see being penetrated in this way under the name of learning. Thirty years ago matters were getting bad, now they are getting hopeless. At that time one sex, at all events, was safe from the insanity. Women were saved from competitive mental strain, so that the progenies that were to come and replenish the earth were born with promise of safety from mental degeneration, on the maternal side at least. Now, however, women are racing with men, in strife to find out who shall become mentally enfeebled and crippled first. The picture looks terrible indeed.

The picture is terrible, and for the future would be positively calamitous, but for one gleam of hope which, as I will show by-and-by, is cast over it. At this time we look fairly and honestly round to find a great many men still playing an active part in the affairs of this world, writing useful and amusing books, conducting great organs of public opinion, making discoveries in science of the most extraordinary kind, composing songs, and, in a word, keeping alight the intellectual fire. Who are these men? Read their lives, and you will find that they are, I had almost said without an exception, men who in their early career have been under no competitive pressure; free men, whose brains at the period of maturity are not filled with ruined edifices or whitened sepulchres holding dead men's bones. This, you will say, is satisfactory so far. It is. But then comes the solemn question:—Who are to follow these? We look at the past history of men, and see that heretofore the men have always come. We look at the present, and are obliged to say: Yes, but in the future where shall they come from? The dearth has commenced in earnest, even at this time. How shall it be removed?

In the upper and middle classes the dearth cannot but remain while the current method of encouraging mental death by competitive strife is the fashionable proceeding. War-cries in learning, as in every other effort, have but one end—desolation, desolation! I am going to say a bold saying—bold because it is based on natural fact. I can find numbers of men who, having been born with good natural parts, have been turned into practical imbeciles by severe competitive strain; but I challenge the production of even one man of pre-eminent and advanced power who has been brought out in complete and sustained and acknowledged mastery of intellect by the competitive plan. "Glamis has murdered sleep"—competition has murdered mind. There is one university which more than all others is the offender, the exemplar in this regard. It is not a teacher; it is a destroyer of teaching. I do not call in question its good intentions, but I oppose its pride and declare its blindness; and I want you who are engaged in education to protest against the ruin of your good work which it and all who go with it are inflicting so determinately.

I said I would light up this subject with one gleam of hope for the future. I take that gleam from the Board schools; it is kept in them, and I trust it will always. If the Board schools will only maintain a moderate system of education; if they will simply be content to lay the foundations for the development of such men as Shakespeare, Priestly, Fergusson, John Hunter, James Watt, Humphrey Davy, Michael Faraday, William Cobbett, Turner, Flaxman, Richard Cobden, Charles Dickens, George Stevenson, David Livingstone, and others of such sort, all of whom would almost surely have been mentally abolished by the competitive ordeal, they will do a work which will be more than national, a work world-wide and lasting as time.

Haply, too, in the success of their undertaking, the Board schools may, by force of results, bring back to reason the erring crew who would cram all learning into the human mind in the first quarter of its existence, and leave it stranded there. It is a sad look-out for the now governing classes, one million in twenty-four millions, if this lesson be not soon learned. For knowledge alone is power, and knowledge with wisdom combined is victory and governance.

In this suggestion for the future, no thought is conveyed of placing the Board schools in opposition to the higher-class schools and the Universities. The higher-class schools and the Universities of these islands have played, in the past, a part second to none elsewhere. They have had their princes of knowledge, their Newtons, their Halleys, their Hamiltons, their Harveys—their hundreds of great scholars, poets, philosophers—all that is mentally noble, as their own. My argument is, that these great ones were theirs when they were content to cultivate industry, to nurse genius, and even to fan into life what might at first seem feeble and unpromising mental effort;—but that the like of these can no longer be theirs, if they continue to care less for the true culture than for the apparent, and only apparent, results of culture: and if, instead of sustaining the weak, they strive to become powerful by crushing and killing in their early life the strong as well as the weak by the like impatient pressure.

I had intended to touch on education as it should be modified according to seasons of the year, and on one or two other equally important topics; but my time is up, and I therefore content myself with offering, as the essence of my discourse, the following propositions:—

1. To secure health through education, it is requisite that a more systematic and scientific study of the psychology of the subject should be undertaken, and that class studies should be divided in regard to the mental aptitudes of the scholar.

2. Parents should expect teachers to exercise a fair and discriminating judgment as to the particular capacities of children under their care, and should be influenced by such judgment in the direction of educational work. The teacher should become, in short, like a second parent to the scholar.

3. Much greater care should be taken in observing the influence of special physical peculiarities of body and heredities on educational progress, while the influence of education on such peculiarities and heredities should be carefully learned and determined. By this means two useful purposes would be secured; education would be made to conduce to physical health, and physical health to education.

4. All extreme competitive strains in learning should be discountenanced, as efforts calculated to defeat their own object, and to produce mental as well as physical degeneration.

5. In school-work, the Swiss system of teaching should be more closely followed; that is to say, very quick and precocious children should be directed rather than forced and encouraged, while dull and feeble children should receive the chief attention and care of the teacher.

6. Education should be so carried out as to make the whole of the life of men and women a continued process of learning, varied, at different ages, according to the changing capacities, faculties, and aptitudes for the different subjects included under the head of knowledge useful and universal.

Practical Department.

SUBJECTS FOR THE NON-PROFESSIONAL EXAMINATION, 1882.

I. For Second and Third-class Certificates.

INTERMEDIATE EXAMINATION.

English Literature.—Cowper's Task, Book III, Goldsmith's Deserted Village, Addison's Sir Roger de Coverley.

Ancient Languages.—(a) *Latin:* The Accidence and the Principal Rules of Syntax and Prosody; Exercises; Cæsar, Bellum Britannicum (B. G., Book IV. cc. 20—36; Book V. cc. 8—23); Cicero pro Archia, and Virgil, Æneid, Book II., 1—317; Learning by

heart selected portions of Virgil; Re-translation into Latin of easy passages from Cicero. (b) *Greek:* Optional.

Other subjects same as for 1881.

FOR FIRST-CLASS CERTIFICATES.

I. FOR GRADE C.

English Literature.—Prescribed Subjects.—Richard II.—*Shakespeare*; The Deserted Village.—*Goldsmith*; The Task, Book III.—*Cowper; The Spectator*—Papers, 106, 108, 112, 115, 117, 121, 122, 123, 125, 126, 131, 269, 329, 335, 517.—*Addison.* Johnson's Life of Addison; Macauley's Life of Johnson. No particular editions of these texts are prescribed.

Other subjects same as for 1881.

II. FOR GRADES A AND B.

Same course as for 1881.

A TEACHER SHOULD

Labour diligently to improve himself, morally, physically, and intellectually.

Thoroughly understand what he attempts to teach.

Prepare himself for each recitation.

Require prompt and exact obedience.

Call on pupils promiscuously, as a rule, to recite.

Teach by precept and example.

Manifest an active interest in the studies and pursuits of pupils.

Make the school room pleasant and attractive.

Make few rules.—DO RIGHT covers all cases.

Avoid governing too much.

Let his pupils see he means what he says.

Take good care of his health. Retire early, rise early, bathe every day.

Teach the subject, not mere words.

Visit the schools of others.

Read the CANADA SCHOOL JOURNAL carefully, and make notes of what he reads.

Attend County Conventions, take part in the discussions, speak to the point, make notes of what is said at the Conventions.

Have complete control over himself.

Keep up courage if right, even when strongly opposed.

Have good personal worth as well as learning.

Cultivate fluency of speech.

Encourage precocious as well as dull children to exercise freely.

Honour his trustees that his days may be long in the land.

A TEACHER SHOULD NOT

Talk much, or very loudly.

Promise what he cannot perform.

Threaten for anticipated offences.

Be hasty in word or action.

Punish when angry.

Speak in a scolding, fretful manner.

Be late at school.

Attempt to teach too many thoughts at once.

Use a hard word where an easy one will do as well.

Let his pupils see they can vex him.

Let a known fault go unnoticed.

Speak evil of others.

Magnify small offences.

Use stimulating drinks or tobacco. Tobacco using should debar any teacher from receiving a certificate.

Put off till to-morrow what should be done to-day.

Trust to another what he should do himself.

Believe all reports without investigation.

Indulge in vulgarity or trifling.

Encourage tale bearing.

Be weary in well-doing.

Use corporal punishment, except in extreme cases.

D. A. M.

SHOULD BOYS DO NEEDLE-WORK IN SCHOOL?

BY JAMES L. HUGHES.

If the only object accomplished by teaching needle-work in school was enabling the pupils to sew and knit, I would answer "no," although even with this limitation the question admits of discussion. When it is remembered, however, that the hand needs to be educated quite as much as the intellect, that it is capable of almost unlimited training, and that in most cases there is absolutely no provision made in schools for developing finger power or dexterity, there seems to be ample justification for anwering "yes" to this important question. Boys' fingers are too often "all thumbs." Every parent knows that the fingers of girls are much more nimble and skilful than those of boys, but unfortunately in most cases they learn nothing by knowing this. They simply take it for granted that it is so naturally, ignoring the fact that this dexterity on the part of girls is the result of training and practice.

It is urged that "boys will not like to knit or sew." This is not correct. If we give them the idea that it is unmanly to do so, they will undoubtedly object, but the teachers will be to blame if the boys get or retain such an impression. They delight in doing light work with the fingers, and until we can get something equally good for boys to do with their hands in school, needle-work should be used for the training of the hand. It is also said that "it is undignified for a boy to sew or knit." This is a snob, or "Lord of creation" argument. If it is undignified for a boy to work, and to have active, skilful fingers, then he should not sew or knit.

The Boston School Board has been trying the experiment in one school of having the boys do needlework with the girls. They are convinced of the desirability and propriety of the plan, and so far the results have been satisfactory. During the last two years the boys in most of the junior classes in Toronto Public Schools have done the same needlework as the girls. They have done this, too, as a matter of choice, and not by compulsion. They had the privilege offered to them and they embraced it, when the benefits of such work were fairly pointed out to them. The boys themselves do not object; any opposition that has been given comes from thoughtless parents.

In the Kindergarten the boys and girls work together, and where true kindergartening cannot be introduced the best substitutes for the "work" side of it are sewing and knitting. Of course the boys in senior classes should not sew or knit in school, not that there is any objection to their doing so, but because they can be better employed at physical development of another kind. When boys are old enough to take systematic drill or calisthenic exercise, they should be engaged at these exercises while the girls are doing their needlework.

The cry is constantly raised for "skilled workmen." In several European countries this need for them is so greatly felt that special schools are established for their training. Why should not the public schools of a nation do something for the development of a race of men who will be able to work with skill and precision with their fingers, when such training may be given without loss of time, and without giving the teacher any extra trouble?

General Information.

To be read to the Scholars.

CHAMOIS skins are not prepared from the skins of the chamois, but from those of the sheep. The sheepskins are soaked in lime-water, also in dilute sulphuric acid, and fish oil is poured over them; then they are carefully washed in a solution of potash.

A telegraphic despatch sent from Paris will reach Berlin in one, one-half hours; Copenhagen in four hours; Constantinople in five hours; Dublin in three hours; Hong Kong in twelve hours; London in one, one-quarter hours; New York in four hours; and Vienna in one, three-quarter hours.

THE bread-fruit tree is distributed generally among the Friendly, Society, and the Caroline Islands. The tree is beautiful as well as useful, and rises to the height of forty feet. The fruit is green, heart-shaped, about nine inches long and equaling a large melon in size. When toasted it is soft, tender and white, resembling the crumb of a loaf, but it must be eaten new or it becomes hard. Such is the abundance of the fruit that whole tribes subsist on this bread or fruit entirely.

PUGILISTIC TOADS.—A correspondent of the *Scotsman* writes as follows: "I always keep a number of toads in my orchid houses for the purpose of destroying vermin. The other morning, while watching two males, I was highly amused to see them have a regular set-to fight. They went at each other in a regular, scientific manner, sparring with their fore-paws, and butting with their heads. After a while they seemed to get tired, coolly sat down, and viewed each other with great complacency. From my earliest days I have been in the habit of watching the ways of the toad, and never having seen them fight before, would like to know if any of your numerous readers have witnessed such a scene.—I am, &c.—"*Alex. Paterson, M.D.*"

WILD MEN.—In the island of Rio there are wild men who live in the trees, and who have no language but cries; and in Sumatra there are men who live in the forest, with whom not only the Europeans, but the Malays themselves, can have no intercourse. They stay in the woods, and subsist by the chase. They hunt the tigers, not with the gun, but with arrows, which they blow out of a tube with such force, and which are so keen of point and touched with such deadly poison, that a wound is almost immediately fatal. Their tiger skins or elephants' tusks they bring for barter. They never sell anything, for money is about the most useless thing they can have. They cannot eat it, nor drink it, nor wear it. But, as they have their wants, they exchange. Yet they themselves are never seen. They bring what they have to the edge of the forests, and leave it there; and the Malays come and place what they have to despose of and retire. If the offer is satisfactory, when they return again they find what they had brought gone, and they take what is left and depart. If not, they add a few trifles to tempt the eyes of these wild men of the woods; and so at last the exchange is effected, yet all the while the sellers keep themselves invisible.

Notes and News.

ONTARIO.

Mr. C. W. Malloy of the 4th year in Toronto University, has been appointed second master in Seaforth High School. Mr. Malloy is an experienced teacher and has won honours and scholarships at the University.

The Dundas High School Board have accepted the resignation of Mr. John Herald, M.A., Head Master, and appointed Mr. J. D. Bissonette to the vacancy, at a salary of $1000. Mr. J. W Dryden, of Brockville, has been appointed assistant master.

Mr. W. F. Rittenhouse, of St. Catharines, has been appointed Head Master of the Central School in that city, at a salary of $700 per annum; and Mr. Rea was selected to fill the vacancy caused by the well-merited promotion of Mr. Rittenhouse.

Cobourg Collegiate Institute appears to be in a very prosperous condition. The attendance has, for some time, been too large for its staff, and the Board have recently added to it another master, Mr. G. E. R. Wilson, who takes junior mathematics and English. There are now in all six masters and two lady teachers, the latter having charge of the drawing and painting department.

The vacancies in St. Thomas Collegiate Institute have been filled. That of Classical Master by Mr. R. Harstone, silver medalist and formerly Classical Master of St. Mary's, who was chosen out of twenty-five candidates. For teacher of Modern Languages, Mr. W. G. Shepherd, first-class honour man, Toronto University, has been selected out of twenty-seven applicants. These appointments have given much satisfaction. There are now six masters in the Institute. Mr. Harstone has had a distinguished University course and is spoken highly of as an excellent, practical teacher. Mr. Shepherd has proved himself an adept in his department. The city is to be congratulated on the accumulation of so much talent in its Institute, which must be productive of the best results to its "rising generation."

Mr. Hume, a graduate and gold medalist of Queen's College Kingston, has been appointed to the position vacated by Mr. McKay in Brampton High School.

A notice of motion was given recently in the London (Ont.) School Board to dispense with the services of the teacher of music in the Public Schools. Mr. McPhail, who is evidently a discriminating member, said he would be very sorry to find the teaching of music discontinued, and he succeeded in carrying a motion to have a teacher of that important and pleasing art procured. The music lesson would be a sad loss to the pupils, as it helps to brighten the mathematics and other dry studies which often over-tax the minds of children. There ought to be a Mr. McPhail on every School Board.

A candidate at the entrance examination for the High School, County of Bruce, spelled after this fashion:—"Nomitave, Prownown, Nuter, Speach, etc." He also laid down the proposition that a "verb agrees with its subject in case," and was of opinion that a "particle was a word and a noun joined together." The same candidate stated that "a relative pronoun was a word used to mark some particular person, place, or thing."—*London Free Press.*

Dr. W. H. Law has been appointed Head Master of Streetsville High School.

In Weston High School, Mr. S. L. Barton, ex-mathematical scholar, in 1879, Toronto University, has been appointed Assistant Master in the place of Mr Reid, who has returned to the University.

Mr. G. Cruikshank, 3rd year student, Toronto University, and first-class honour man in science, has been appointed Assistant Master in Prescott High School. Mr. Cruikshank received his education in Weston High School.

Mr. Joseph Nason, of Weston, graduated last May in Toronto, after a brilliant course, with double first-class honours in natural science. We understand that Mr. Nason intends to devote himself to the teaching profession.

The trustees of the Weston High School have determined to establish a reference library in connection with the School.

Mr. David Hicks, B.A., of Toronto, has been appointed Head Master of the Newburgh High School, at a salary of $700.

Under the able management of Mr. Cortez Fessenden, B.A., Head Master, the attendance of Napanee High School has been doubled during the past year.

Brockville High School is reported to be in a prosperous condition. Mr. P. C. McGregor, M.A., late of Almonte High School, has recently taken charge. As Mr. McGregor is an energetic and enthusiastic teacher we may predict a successful future for his new field of labour.

Mr. Bell, late Classical Master, St. Thomas Collegiate Institute, has been appointed assistant professor in Classics, and Modern Languages, in Victoria University.

Sixteen pupils from the Caledonia Model School, Mr. Telford, Head Master, passed the Examination for Entrance to High School.

Mr. James W. Westervelt, late Teacher of Writing, has been appointed to take charge of the Commercial Department of the Canadian Literary Institute, Woodstock.

Mr. Telford has been appointed to the Head Mastership of Caledonia Model School, recently vacated by Mr. Hyslop.

Mr. J. C. Harstone, B.A,, Math. Medalist and Proficiency Scholar, Tor. Univ., has been appointed Mathematical and Science Master in Whitby Collegiate Institute. Mr. Harstone is a very

distinguished Graduate and Scholar of Toronto University. He has been for the past three years Mathematical Master in Port Hope High School, and has won there a front rank as a teacher. He comes to Whitby recommended in the highest terms by the Professors of Toronto University, by the High School Inspectors, by Messrs. Purslow, Kirkland, Bryant, and many other well-known Scholars. He assisted Dr. McLellan in the preparation of his works on Algebra and Mr. Kirkland on his Natural Philosophy, and publicly received the thanks of these authors. He has been very successful in preparing pupils for the various examinations.

RESULTS OF THE JULY EXAMINATIONS.

The percentage of successful candidates out of those who wrote at the Intermediate and Second-class Teachers' Examinations is considerably smaller this year than hitherto. It has been computed that only 29 per cent. passed, but even at that low figure some of the Collegiate Institutes and High Schools have made a good record. We give the results in a few instances, but these are liable to corrections, as in many cases our information has been rather vague; also, it frequently happens that through appeals, irregularities, errors, and such like, the record is augmented. If we are wrong we shall be pleased to publish the correct list in a future number. In the meantime we shall be obliged if Head Masters will kindly send us any intelligence they can with respect to this matter or any other that may be of interest to the profession.

Perth High School.—Six in Grade B and nine Intermediate.

London; from Collegiate Institute nine, and from County three in Grade B; ten Intermediate.

Brampton High School.—Seven B's and eleven Intermediate. Three matriculated at the Toronto University.

Streetsville High School.—One in Grade B, three Intermediate.

Peterboro' Collegiate Institute.—One in Grade A, six in B, and six in C, out of forty-five who wrote.

Whitby Collegiate Institute.—Eight passed: seven B's and one Intermediate.

Listowel High School.—Five Grade B, and one Intermediate, out of twenty who wrote.

Orangeville High School.—Four in Grade B, and five Intermediate.

Collingwood Collegiate Institute.—Five in Grade A, twenty-three in Grade B, and eighteen Intermediate, making a total of forty-six out of ninety-five who wrote.

Brantford Collegiate Institute.—Twenty-seven, three in A, fourteen in B, and ten in C.

Hamilton Collegiate Institute.—Twenty-four, out of eighty-nine who wrote.

Sarnia High School.—Fourteen.

St. Catharines Collegiate Institute.—Fifty.

Napanee High School.—One in Grade B, three in C.

Newburg High School.—Two in Grade C.

Bath Public School.—One in Grade C.

Albert College.—Four in Grade B.

Kingston Collegiate Institute.—Two.

Pickering College.—Out of ten who wrote nine passed, four in B, five in C. Eight candidates were examined for Matriculation at Toronto University, and all passed.

Bowmanville High School.—Three Grade A, eight Grade B, and two Intermediate. Twenty-two wrote.

Weston High School.—Out of fifteen who wrote nine passed, one in Grade A, five in B, and three Intermediate. One candidate for matriculation passed with honors in English.

St. Thomas Collegiate Institute.—One in Grade A, twelve in B, and nine in C. Four candidates passed for senior matriculation last May.

Oshawa High School.—Out of 16 who wrote, one obtained Grade A, five B, and three C. At the Matriculation Examination in May, the eight candidates sent up passed, out of whom two obtained first-class, and two second-class honours in mathematics; one first-class, and three second-class honours in German; and two second-class honours in English.

Lindsay High School.—Sixteen; one A, seven B, eight C, out of sixty examined.

Port Perry.—Seventeen; two A, nine B, six Intermediate.

Waterdown High School.—One first-class, and seventeen Intermediate.

Barrie Collegiate Institute.—Two in Grade A, seventeen B, and nine Intermediate.

Clinton High School.—Fourteen.

Toronto Collegiate Institute.—Out of sixty-eight who wrote; thirty-one passed; two A, twenty-one B, and eight Intermediate.

Elora High School.—Fifteen passed out of thirty-four who wrote, two in A, eight in B, and five Intermediate.

Dundas High School.—Seventeen wrote; three passed,—one A, one B, one Intermediate.

Chatham High School.—Thirty-six wrote; seven passed,—four in B, and three Intermediate.

Port Hope High School.—Eighteen successful out of twenty-five who wrote; three in A, thirteen in B, and two Intermediate.

Uxbridge High School.—Seven successful out of thirty-six who wrote.

Cayuga High School.—Two in B, out of fourteen who wrote.

Dunville High School.—Ten passed out of twenty who wrote.

Caledonia High School.—Twenty-three passed out of fifty-three who wrote.—two in A, twelve in B, and nine Intermediate

Guelph Collegiate Institute.—Thirteen.

Orillia High School.—Two successful; nineteen wrote.

Belleville High School.—Eleven.

Markham High School.—Thirteen passed; eighteen wrote.

Canadian Literary Institute, Mr. N Wolverton, B. A., principal. —Six.

Woodstock High School.—Eight.

Seaforth High School sent up 35 Candidates, and passed 13; eight B, and five Intermediate.

Cobourg Collegiate Institute.—Twenty-two successful out of fifty one who wrote.

Stratford High School.—Six.

Strathroy High School.—Eighteen out of twenty-one who wrote.

Out of 180 candidates who recently presented themselves for matriculation at the University of Toronto, 156 passed. Of this number Brantford sent 19, sixteen from the Collegiate Institute, seven of whom were young ladies, and three from the Young Ladies' College. Toronto sent 14 boys; Upper Canada College 12 boys; St. Catharines 11, one a lady; Hamilton 8, one a lady. Brantford thus heads the list in sending to Toronto much the larger number who passed the examination. And in analyzing the honor lists, it will be seen that the young ladies come up well in comparison with their brothers. Brantford carried off 10 first-class, and 20 second-class, in all 30. Toronto takes 7 first and 20 second—27: Upper Canada, 4 first and 16 second—20; St. Mary's, 5 first and 13 second—18; Bowmanville, 9 first and 6 second—15; St. Catharines, 4 first and 8 second—12; Hamilton, 2 first and 3 second—5. Of the scholarships, Brantford takes 2, and Hamilton, Toronto, U. C. College, St. Marys, Bowmanville and Collingwood, one each. —*Brantford Weekly Expositor.*

NOVA SCOTIA.

The Provincial Educational Association convened in its second annual session in the Assembly Hall of the Normal School, Truro, on Wednesday, July 13th. One hundred and seventy four enrolled members were in attendance while the successive meetings of the association were favoured with a large number of ladies and gentlemen interested in the cause of education.

Dr. Allison Superintendent of Education, in calling the association to order, gave a hearty greeting to the assembled teachers, and confidently bespoke an earnest and critical consideration for the important matters to be submitted.

Alex McKay Esq., Prof. of Mathematics in the Halifax High School, and B. McKittick Esq., B.A. Principal of Sydney Academy, were re-elected to the offices of Secretary and Assistant Secretary.

The report of the Executive Committee was presented, embodying among other matters the programme of exercises for the present meeting, and recommending that ample time be afforded for the discussion of the "Course of Study for the Public Schools" to be presented by the Committee charged with the duty of its preparation.

Principal Calkin as Chairman presented the report of the Committee on the "Course of Study," and made in connection with the presentation a few explanatory remarks, The report was accepted for consideration and laid on the table for subsequent discussion.

Jas. B. Hall, M.A., Ph. D. Professor of English, in the Normal School, read a paper on "Method" the discussion growing out of which lasted till the close of the first session.

The essayist distinguished between the form or husk, and the true vitality of teaching. Our school work was often hampered with paraphernalia, the burning of which would purify the educational atmosphere. He quoted and endorsed the four general rules of Descartes. The subject treated of was brought to a definite application

in the teaching of geography. The intimate relations of political and physical geography were eloquently pointed out.

Inspector McKenzie (District No 10.) expressed himself as much impressed with one prominent idea of Dr. Hall's paper. We should aim at avoiding the enfeeblement of children's minds through overmuch breaking up of subjects.

Principal Calkin said that we should consider what is the teacher's aim—words or ideas? The teachers' constant object should be to develop the child's natural desire for knowledge. Objective teaching for the young has a deep philosophical basis. Words are not so plain and gratifying to the young child as are objects. The order of natural development should be observed.

The exercises of the second session began with an illustrative "Miscellaneous School" conducted by teachers of the Model Schools and Pupil Teachers of the Normal School. This exercise deservedly attracted great attention. The pupils were drawn from the Public Schools, and the teachers engaged were Miss Hamilton of the Model School, and Misses Kirkpatrick, Calkin, Hamilton and Fletcher of of the Normal School.

The Association then proceeded to discuss the submitted "Course or Study." In passing to this order the President expressed a hope that the report would be thoroughly sifted. Let not action be taken on so important a matter without the fullest and most careful consideration. The questions which should enter discussion, are: 1st Do we need a Course of Study? This is a general question. 2nd Does the proposed course meet our wants? The succeeding discussion was taken part in by Principals Calkin and McKay (Pictou), Inspectors McKenzie and Roscoe, Dr. Hall and Messrs. H. S. Congdon (Maitland), Lay, Tuttle, Crowell, Andrews, and others. Some argued that the "Course" was impracticable for "Miscellaneous Schools," being too heavily weighted with science and oral lessons. Others that many teachers were at present incapable of giving oral lessons effectively. On the other hand it was urged that the elements of scientific knowledge were of paramount importance, and that teachers who were too idle or stupid to teach such lessons as the course required could be well spared from the profession.

At the close of the afternoon's discussion, which was conducted in a most earnest, yet most gentlemanly manner, the President (Dr. Allison) observed that he was not irrevocably wedded to the sciences, but pointed out that it would be impossible to produce a single public school course of any civilized country, published within the last ten years, with less science than the course now before the Association contained. Why should not the study of minerals be imperative in this Province, filled with minerals, as in other countries which did not contain a single mineral? But it was better to be on the safe side; it was better to put too little science in the course, and add to it as advisable, than to overburden it now and prejudice teachers against its practical utility. The argument that the teachers would be unable to instruct their pupils was a very poor one. Carry the argument to its logical conclusion, and what would be the result? We should never take a step forward. We should stay where we are for five thousand years, because a large number of teachers would not be able, and would not be inclined to qualify themselves, to teach any new branches that might be introduced. As educationists we *must go forward!* At the same time we should not make our advancement more difficult than is absolutely necessary.

The third session was held in the Hall of the Y. M. C. A. A large audience assembled to hear an address from the President, on "The Educational Condition and Prospects of Nova Scotia." Principal Calkin presided, and was supported on the platform by many leading educationists. The address epitomized the various forms and forces of education existing or at work in the Province, pointed out defects, suggested improvements, and according to the summarized press reports, for which we are indebted to the *Herald* and *Mail*, closed as follows:

ARE WE USEFULLY EDUCATING THE CHILDREN OF THE COUNTRY?

Generally yes, and emphatically yes, if the comparison be with the past. But let us consider the friendly criticisms which are kindly volunteered from time to time. We are over-educating the people; educating them, or some of them, above their station in life. Is it a crime for a young man to be aspiring and ambitious? Is our system to be condemned because it has afforded many a youth the instruments of attaining to a better destiny? If it trains the young to despise their hard-working parents, or breeds sentiments which tend to overstock the non-productive occupations or professions, its practical working should be carefully watched. But if we condemn it for fostering the impulse of honourable ambition, we condemn it for doing what all true education must in the nature of things do. Considering the subject in detail, the speaker proceeded to suggest that possibly the criticism referred to could be explained by the almost exclusive attention given in our schools to bookish studies, the Humanities, as Scotch educationists say. He pleaded for a training which would at least let the pupils know that there is a physical world, that it has phenomena and laws, that they themselves are sentient organisms. The question of intermediate education was elaborately treated. He deplored the imperfect articulation with our colleges. The semi-animate University of Halifax held in suspense hopes he and others had entertained that its working would remedy the defect. It was unfortunate that we were to so large an extent shut out from the light and heat of which colleges are the natural centres and sources. The County Academy system was referred to, and suggestions as to its improvement made. The speaker concluded with a reference to our politicians and statesmen, discussing their rival policies of trade and commerce. The teachers should recognize that the determination of the destiny of this country is in *their* hands. Nations which produce great men alone are great. Nations whose people are educated cannot be poor. The dream of continental commerce thundering over this little peninsula to be transported in mighty argosies from its peerless harbours, may be realized or not. If we do our duty, Nova Scotia will be the home of an intelligent and virtuous people, and this includes the promise of everything a reasonable patriotism can desire.

(Next month's notes will contain remainder of report of this interesting educational gathering.—Ed. C. S. J.)

Gordon McGregor, A.M., Ph.D., Munro, Professor of Physics in Dalhousie College, is spending the summer in Edinburgh, pursuing certain scientific investigations, for which the famous university of that city offers special facilities.

The Governors of Dalhousie College have decided that all the facilities and privileges of that institution are available to young women as well as young men. Specially included in this statement are the Munroe Bursaries and Scholarships. It is understood that one of the young ladies, whose application secured the above response, is Miss Calkin, daughter of the esteemed Principal of the Normal School. Miss C. stood third in the list of candidates for Licenses of the First Class at the Annual Examinations of 1880.

A large meeting of representative educationists met in the Legislative Library, Halifax, for the formation of a University Consolidation Association. Addresses were delivered by the Rev. Chancellor Hill, who presided, Wallace Graham, Esq., A.M. (Acadia), R. C. Weldon, Esq., A.M., Ph.D. (Mount Allison), and others. His Hon. Ex-Justice Wilkins, was chosen President, and C. B. Bullock, Esq., A.B. (King's), Secretary of the newly-formed Association.

MANITOBA.

The corner stone of the new Manitoba College was laid by His Excellency, the Governor General, during his stay here. His Excellency visited all the Colleges, the Governing Bodies of which presented addresses to him. An address was also presented by the Council of the University.

St. John's College School, and St. John's College Ladies' School, have re-opened after the vacation with an increased attendance in each case.

The Protestant Board of School Trustees for Winnipeg are advertising for five teachers. Mrs. Chisholm, who for some years has done excellent work as a teacher here, has just resigned. The total number will now be fifteen.

At the examination for Public School Teachers, which commenced on the 2nd of August last, there were ninety-two candidates. Of these eleven wrote for First-class Certificates, forty-one for Second, and thirty-eight for Third; and two undergraduates of the University of Manitoba, who have passed the previous examination of said University, took the paper on school organization and management

The following is the classification of the successful candidates, the names appearing in the order of merit, viz.:

FIRST-CLASS.

Grade B.—A. Springer, Miss Aggie Eyres, John D. Hunt, E. A. Blakeley, D. E. McLean, P. D. McKinnon, John A. McGuire, Miss Nellie Brown.

SECOND-CLASS.

GRADE A.—A. Carmichael, Miss Annie Morrison, W. C. Morrison.

GRADE B.—N. Hewitt, J. Martin, T. B. Scott, Miss A. Dickson, J. W. McPhail, D. Campbell, R. Weir, Miss J. Hargrave, Alex. Acheson, Miss Hetherington, James Patterson, John Acheson, A. R. Shirk, Francis Shore, Miss Sturgeon, Miss Aikenhead, Miss F. Burke, Miss McIlroy and A. W. Stock, equal; A. Montgomery, W. Duncan, S. Erskine, Miss Tina Allan, J. Barkley, F. F. Kerr, Miss M. Hargrave, J. C. Fraser, W. C. Graham, Miss Simpson, Montague Shore, Miss Jennie Ager, John May.

Undergraduate passmen are, John Mulvey, Manitoba College; J. B. D. Code, Manitoba College.

THIRD-CLASS.

GRADE A.—A. C. O'Berine, H. N. Hill.

GRADE B.—A. L. McIntosh, T. H. Loughead, George McRae, J. H. Copeland, A. H. Monkman, R. J. Lipsett, Miss Hopper, Miss Blyth, John J. Edwards, M. Babington and H. A. Stewart, equal; F. N. Shoultz and W. Kurstead, equal; Miss McDonald, R. W. Simpson, D. W. McKercher and John Clinton, equal; Miss Harvie, H. Newmarch, E. Montgomery, William Eccles, Miss McKibbin, Miss Robb, J. W. Daly, Miss J. Hay Aitken, T. H. Milne, Miss Conner, Miss Mary Allen, W. C. Pope, Miss Edwards, Miss Johnson, Miss Parrott, Mrs. Gosnell, R. R. Mills.

The Rev. W. C. Pinkham, B.D., has just resigned the incumbency of St. James, a position he has held for nearly thirteen years, and the duties of which he has for the past ten years discharged in addition to his duties as Superintendent of Education.

A. M. Sutherland, B.A., M.P.P., has been obliged to resign the Inspectorship of Public Schools for the County of Seigeer, owing to pressure of private business.

Readings and Recitations.

A BOY'S ESSAY ON BOARDS.

There are several kinds of boards—sign-boards, base-boards, dash-boards, clap-boards, side-boards, paste-boards, and school-boards.

I think I will write about school-boards, because my sister is a teacher, and I can remember a good many things she has said about them, and that will help me some.

I don't know whether school-boards are always made of green lumber or not. I heard my sister say the board wasn't half-baked once. Guess she meant it wasn't kiln-dried. May be it warped, and turned over on the wrong side, or may be it shrunk badly, when exposed to the dry question of wages.

School-boards are of different shapes, some are square and polished on both sides; some are longer than they are broad, and so thin they bend under slight pressure.

I asked my sister what kind of a board ours was, and she said it was a good-looking board, but when put to any use it was full of slivers.

There was a young lady staying with my sister, the evening I was writing this, and she said she thought some of the board would make good hitching-posts. I asked her if it was because they were such big sticks. She said that wasn't it. Then they both laughed; they thought I didn't know what they meant, but I did, because I saw Mr Jones take her to church, and he is a member of the board, and she acted as if she thought he would be good to tie to.

The school-board is used for the purpose of getting the cheapest teachers they can find, whether they know anything or not, and to vote down women's wages, and leave men's as they are. This kind of board is elected by the people, mostly men.

They most always get the closest-grained they can find; then when the teachers say they don't get pay enough, the people say it is the board. The teachers say the people had no right to get such hard wood for their board, and the board say "what are you going to do about it?"

Sometimes there is a weak place in the board, and when thrown against some hard question, it splits and goes all to pieces; then they either get a new one or stick the old pieces together again with taffy.

My sister says there is too much slang in this, but father says slang is mighty and shall prevail. He knows, because he is a man. Men know everything, because they can vote.

Sometime, I will write about other kinds of boards, if you have not been too badly bored with this.—*Literary Notes (Neb.)*

RECITATION BEFORE RECESS.

Now soon the bell will ring
  To call us out to play;
You can not tell how hard it is,
  Still in our seats to stay.

We'd rather run and jump,
  Play with our ball and bat,
Or swing, or spin a humming-top,
  Or gaily laugh and chat.

We try to study well,
  And not be idle seen;
We write and cipher, read and spell,
  And sing our songs between.

We know that birds and bees
  Are busy all the day,
Although we think, if *we* were these,
  Our work would *seem* but play.

It takes *so long* to learn
  All that we ought to know,
But teacher says we'll need it all
  When we shall older grow.

So we will do our work
  With bright and cheerful face,
And you'll soon see us back again,
  Each busy in our place.

Teachers' Associations.

The publishers of the JOURNAL will be obliged to Inspectors and Secretaries of Teachers' Associations if they will send for publication programmes of meetings to be held, and brief accounts of meetings held.

ONTARIO TEACHERS' ASSOCIATION

The proceedings of the twenty-first Annual Convention of this body were opened with devotional exercises in the Large Hall, Education Department, at 10.45 a.m., on the 9th ult., the President, Mr. Robert Alexander, of Galt, in the chair. The minutes of last meeting were accepted as read, and the Treasurer, Mr. F. S. Spence, Toronto, read his report which showed a balance on hand of $183.76. The statement was handed to an audit committee to report. On the proposition of Mr. J. L. Hughes, P. S. I., Toronto, seconded by Mr. R. W. Doan, Toronto, Mr. W. H. G. Colles, of Chatham, was appointed minute secretary. After a few questions relative to order of business, the Convention adjourned until 2 p.m. to give the committees and sections an opportunity of meeting. 2 p.m., Mr. Hughes read the report of the Committee on Legislation, in which the superannuation scheme bore a leading part. The Committee also reported that they strongly urged the withdrawal of the amendment of 1879 restricting the powers of school boards in providing school accommodation, and a clause was drafted giving the Board the right of appeal to the Minister of Education if their estimates were not granted, and authorizing him to compel the section or municipality to raise the necessary funds, if on enquiry he found the school accommodation to be insufficient. The clause, the Committee regretted, was not embodied in the Bill submitted to the House. They recommended that the views of the Association should be expressed. The necessity for granting increased aid for County Model Schools was also pressed upon the attention of the Minister. The amount of the government grant had been increased to $150 per annum, and the county grant to an equal amount had been made compulsory. The Committee reported that they had been received by the Minister of Education with the greatest courtesy; that he had promised to recommend an annual grant of $200 to assist the Association, and to incorporate the proceedings of the Convention in his annual report. Mr. Hughes moved the reception of the report, seconded by Mr. Fotheringham, P. S. I., Aurora, and carried. Mr. Mackintosh proposed a vote of thanks to the Committee for their trouble, zeal and patience in the execution of their onerous and responsible duties, so satisfactorily performed, seconded by Mr. P. C. McGregor, and passed with applause. The consideration of the superannuation scheme, as given in the circular of the Minister of Education, was then taken up *seriatim*. Mr. Hughes proposed the adoption of clause 1, seconded by Mr. Campbell, Ottawa; and carried. Mr. Fotheringham moved the adoption of clause 2, seconded by Mr. Wood; carried. After some discussion about reserving future consideration of the circular for a larger attendance, it was determined, on Mr. Fotheringham's motion, to proceed. Mr. Campbell moved, seconded by Mr. Kent, that clause 3 be adopted. Mr. Hughes moved as an amendment the plan adopted by the Toronto Association which he represented, namely, "that each person contribute annually to the fund the sum of $4, with

the option of increasing that amount by contributions of 4, 8, 12, or 16 dollars." This would enable the teacher who had a small salary to provide a sufficiency equal to those more fortunate, and thus secure a better provision for old age. Seconded by Mr. McGregor, President, No. 1, Leeds County. Mr. Campbell opposed such an arrangement on the plea that teachers when superannuated would, in many instances, be better off than when they were teaching. Mr. Henderson, Thornbury, said East Grey Association did not approve of the sliding scale. Mr. Reid spoke at some length on the object of such a fund which he thought should be considered in a charitable sense, and moved an amendment to the amendment that the payment be voluntary. Mr. Mackintosh, who was in favour of the Toronto plan, altered his opinion on hearing what Mr. Campbell said. He would support clause 3 as in the circular. Mr. White, of Watford, was also against Mr. Hughes's amendment. Mr. F. S. Spence said that the Hon. Adam Crooks was decidedly in favour of the sliding scale, and not in accordance with the percentage system which would cause much difficulty. The circular did not express the views of either the Minister of Education or the Legislative Council. The best men did not often get the best salaries, and in the country the trustees are so good, just and virtuous that they give salaries according to efficiency; it might be different in the city and the percentage system would be unfair. He could not see how a man could retire on a larger salary than he received while teaching, but if the amendment became law good men would be encouraged to remain in the profession and indifferent ones would leave it. The reasons which induced him to favour the sliding scale were four, as follows:—(1) because it gave the provident man a chance to provide, and not simply a certain paltry amount; (2) because the man who enters the profession will know for certain the sum he will receive on retirement; (3) because it was easy to manage; (4) because it gave no discrimination to those receiving large salaries, but placed all upon an equal footing. Mr. A. S. McGregor, South Perth, would prefer a settled and fixed annual sum, but failing that he favoured the sliding scale. The motions were then put to the Convention, the amendment to the amendment being lost, only three voting for it. Mr. Hughes, in reply to an enquiry, explained how the scheme he proposed in his amendment would work. Under it a teacher would be entitled to five-sixths of the total amount he had paid. If a teacher paid $8 per annum for thirty years, five-sixths of that would be $200, the amount he would receive. So that his income from the fund would depend on the amount he had paid in and the number of years he had taught, and not on the amount of his salary. Mr. Hughes's amendment was then put and carried by a large majority. (At this stage the further discussion of the subject was stopped to proceed with the programme, but as it may be more convenient to our readers to have all in connection with it given continuously as it came on at the several sessions we proceed to do so.) Clause 4 reads as follows:—"Every male teacher of a public school is required to make such payments annually into the fund during the period or periods in which he is engaged in teaching. There was considerable discussion over this clause. The general opinion appeared to be that if the payments were made compulsory in the case of one class, it should be so in the case of all. At length a motion was carried providing that all those who were entitled to contribute under clause 2 should be compelled to contribute under clause 4. On motion of Mr. Campbell clause 4 was amended so as to read "all persons enumerated in clause 2 as entitled to a retiring allowance shall be required to comply with the conditions attached during the period of their service." This settled the question in favour of no exemptions. Clauses Nos. 5 and 6 were, on motion, struck out, and clause No. 7 amended by having the the words "at the rate of two per cent. upon the salary of each person and the said sum of two dollars also to be annually paid by non-contributors, as hereinbefore provided," struck out. Clause No. 8 was adopted. The discussion on clause No. 9 caused a lively debate, after which the first section of the clause was amended and passed. The second section was also passed. The remaining clauses were then agreed upon, with a change in clause 11, as follows: "That no contributions should be returned, but that after two years, in case of disability or death, the funds should be given to the party, his relatives or representatives." In continuation of the programme, an able paper on "Agricultural Education in Schools" was read by Prof. J. Mills, Principal of the Agricultural College, Guelph, who admitted that the children of Canadian public schools were more proficient than those in other countries in arithmetic, geography, history, &c., but thought they were not so well up in composition, reading and spelling, because in his opinion the teachers either did not give sufficient attention to these subjects or were not themselves proficient enough to teach them. He looked upon good reading and correct spelling as of primary importance, and suggested that the Normal Schools should include on their staff the best teacher of elocution they could get. Prof. D. C. Bell's appointment to the Toronto Normal School was a step in the right direction. Geography received too much attention, while more practical subjects, such as botany, geology, and elementary chemistry were neglected. The agricultural resources of Ontario are gradually decreasing, not through the soil becoming exhausted, but through the lack of scientific skill in cultivating it. Prof. Mills thought that agriculture should be included in school studies, to give children an idea of how the soil ought to be managed, so as to produce larger yields without becoming empoverished. This information could only be imparted legitimately in the public schools, and primers on the subject might be put into the hands of the children. Teachers should receive a course of instruction in that branch at the Normal Schools; and an incentive to study would be afforded by the Agricultural and Arts Association, who intend to hold examinations on agriculture and stock-raising periodically throughout the Province, and grant certificates. Mr. Wm Johnston, by request, spoke at some length on the importance of learning Agriculture, and the desirability of its introduction into the public schools, but he feared that as the programme of school work had a restricting influence, and embraced only technical subjects, which aimed in the direction of some practical pursuits, there was no room at present for such a useful and necessary study as that of agriculture. A resolution in favour of introducing a course of instruction in that branch, into the public schools, was lost. In the evening the President delivered a highly instructive and practical address bearing upon the "Galt half-time system; the use of hair-line type in reading books for letters which are not sounded in the words, and the ventilation of school rooms. A mere summary of the address would be very unsatisfactory, and could not do justice to the many excellent ideas brought out; but we may be able to publish it in full in a future number of the JOURNAL. *Second Day*.—The public school section met at 9 a.m., and took up the subject, "Our Over-supply of Teachers," which was introduced by Mr. McAllister, Toronto, who referred to the fact that a large number of applicants appeared for such situations as gave a salary of not more than $300 per year. This arose from the ease with which the profession was entered by those who intended to remain in it for a year or two only. He thought the training in Model Schools too short, and that young persons who had little or no experience should act as assistant teachers for at least twelve months before being entrusted with the full management of a school. A considerable discussion ensued in which the following took part: Messrs. Duncan, Wightman, Powell, Colles, Miller, Linton, White, Black, Rothwell, Campbell, Lewis, Alexander, Spence, Harvey, Henstridge, Bole, Dafoe, and Bowerman. Mr. Campbell of Ottawa, thought third-class teachers should not have full management. Mr. Lewis, Toronto, was of opinion that too much importance was given to certificates instead of to experience and success in teaching. Passing an examination did not qualify a person to teach, it would answer as well for any other profession; but while the standard of certificates was taken, the teaching profession would be constantly filled by those who only intended to make it a stepping-stone to other positions. Mr. Alexander contended that there should be no grades among teachers, the standard should be success; other professions had no such grades. Mr. W. Rannie, Newmarket, then moved, F. S. Spence, Toronto, seconded, and it was carried, "That Messrs. Alexander, McAllister, Lewis, Colles, and Wood be a committee to draft a resolution embodying the ideas of the section on the subject of over-supply, to the Minister of Education, said committee to report to this section to-morrow morning." After hearing Mr. McQueen's paper on "Representation to Provincial Association," which was read by Mr. Smith, P.S.I., Wentworth, the following resolution, proposed by Mr. Spence, and seconded by Mr R. W. Doan was adopted:—"That each local association be entitled to three delegates who shall be full members of this association: that any teacher or inspector may be a privileged member on payment of fifty cents, such privileged member to be entitled to all the privileges of this association, except voting at the election of officers, or when the yeas or nays are called; and for purposes of representation the section shall be considered a local association." The Convention resumed at 2 p.m., Mr. Alexander, President, in the chair. Mr. A. H. Morrison, Galt, read a paper on "Physical Education," which we publish in our columns. A vote of thanks to Mr. Morrison was moved by Mr. Reid, Mount Forest, seconded by Mr. Scarlett, P.S.I., and carried with acclamation. Mr. J. L. Hughes, P.S.I., Toronto, then gave an extremely practical address on "Industrial Drawing," as taught in the public schools of Toronto. He said that teachers considered this subject could only be taught by a Drawing Master, but he would show that it was within the scope of every teacher to give instruction in it, if that individual's mind was cleared of three popular fallacies, namely: (1) That pupils cannot learn to draw; (2) That all teachers cannot learn drawing; (3) That in teaching drawing we should educate the hand. He then clearly showed how a teacher might commence the art with even very young pupils, by drawing a regular figure such as a square, and sub-dividing it into squares,—thus teaching on the square. (laughter). These figures could be filled in always remembering that what was drawn on one side should be similarly performed on the other side of the centre. He cut a pattern from a maple leaf and illustrated how that, or any similar pattern might be utilized on the same principle. He referred to some specimens of work performed by the children of the Toronto Public Schools, which were exhibited in the Entrance Hall of the Education Department, as evidence of what might be done by this system; and we may here remark that, considering the ages of the juvenile artists, the specimens we saw were, in many instances, extremely well executed, and we could scarcely credit the assertion that they were *original* designs—but such is the fact. Mr. Linton, Galt, said he knew nothing of the subject until he heard Mr. Hughes give an address on it at a convention in Waterloo County. He

afterwards tried it in his school, and it has proved a perfect success. Mr. Duncan proposed that the thanks of the Convention be given to Mr. Hughes for his very useful and instructive address; seconded by Rev. Mr. McKee, and carried unanimously. In the evening a very able address was given by Dr. Workman, of Toronto, on "The Morbid Results of Persistent Overwork." To summarize this address would be to spoil it, as all through it was intensely interesting, and most valuable in its ideas and suggestions. *Third Day.*—The sections met at 9 a.m. The general Business of the High School Section is summarized in our editorial department. The first business before the Public School Section was the report of Committee on over-supply of teachers, which was to the effect that, teachers should have their certificates raised according to their practical success in teaching. The following officers were then elected:—Chairman—Mr. Lewis; Secretary—Mr. Rannie, re-elected; Members of the General Committee—Messrs. Campbell, McAllister, Alexander, and Colles; from the Inspectors' Section, Mr. Mackintosh; Members of the Legislative Committee—Messrs. McAllister, Doan, and Spence, re-elected. A vote of thanks was tendered to the retiring officers. Mr. J. Duncan, Windsor, then read a paper on "Model Schools, and Model School Work," which will appear in a future number of the JOURNAL. In the P. S. Inspectors' Section, the officers were elected as follows:—Chairman—J. S. Carson, Strathroy; Secretary—D. A. Maxwell, Amherstburg; Directors—J. L. Hughes, Toronto; J. Dearness, London; D. Fotheringham, Aurora; E. Scarlett, Cobourg; Legislative Committee—J. L. Hughes, Toronto; J. S. Carson, Strathroy; D. Fotheringham, Aurora. The following resolution was passed:—"Resolved, That in the opinion of this Section the professional training of first and second-class teachers is quite defective, and the attention of the Hon. the Minister of Education is respectfully directed to the necessity of a thorough investigation into the character of the lectures delivered in the Normal Schools, and into the method of teaching practised in the Model Schools." Mr. Dearness introduced the subject. "A Day's Work in School." A general and profitable discussion ensued on the subject, and the meeting adjourned. At 2 p.m. the Convention resumed, and the officers for the ensuing year, nominated by the Board of Directors, were declared duly elected, namely:—President—Mr. A. McMurchy. Vice-Presidents—Messrs. J. S. Carson, D. C. McHenry, and R. Lewis; Recording Secretary—Mr. R. W. Doan; Corresponding Secretary—Mr. A. Purslow; Treasurer—Mr. F. S. Spence. The report of the Auditors, testifying to the extreme accuracy of the Treasurer's books, was read and adopted. The following resolutions were carried unanimously:—Moved by Mr. J. L. Hughes, according to notice previously given, seconded by Mr. Maxwell, "That, in the opinion of this Association, the minimum age for admission to Public Schools should be increased from five to seven years, or, if this change be not made, that students at the Normal Schools should receive training in the principles and practice of Kindergarten work." Moved by Mr. J. L. Hughes, seconded by Mr. A. S. McGregor, "That, in the opinion of this Association, the 29th clause of the Amended School Act of 1879 should be rescinded, or so amended as to place no restrictions on School Boards in providing additional school accommodation where the existing accommodation is insufficient." A resolution, moved by Mr. R. W. Doan, providing for the paying of the Directors' travelling expenses was also passed. In consequence of the unavoidable absence of Rev. Dr. Wilson, his paper on "Religious Instruction in Public Schools," was read by Mr. J. M. Buchan, M.A., H.S.I., and at its conclusion, Mr. A. McMurchy moved a vote of thanks to Dr. Wilson, for his able paper, which was seconded in eloquent language by Mr. Lewis, and carried unanimously. A cordial vote of thanks was also tendered to Mr. Buchan, for his admirable reading of Dr. Wilson's paper. The Committee on Hygiene presented a report to the following effect, which was adopted:—First, that the Hon. the Minister of Education be requested to issue to the school sections circulars setting forth the best modes of ventilation, etc., with a view to making it obligatory on the part of trustees when building school-houses to arrange the hygiene; second, that a committee be appointed to consider the best methods of experimental education. Mr. S. S. Herner, President of the Waterloo Co. Association, read an exhaustive paper on "Uniformity of Text Books," which was well received. In the evening, Dr. S. P. Robins, of Montreal, delivered a splendid lecture on "The Relation of the Will to the Intellect," and at its close received the hearty thanks of the Association. On motion, the name of the body was altered to "The Ontario Teachers' Association." Resolutions of thanks were passed to the Toronto daily press, and to the passenger agents of the various railways; also to the Minister of Education for allowing the Association the use of the beautiful Hall of the Education Department, after which the Association was closed by singing the National Anthem.

REVIEWS.

DICTIONARY OF EDUCATION AND INSTRUCTION. *New York, E. Steiger.*—Mr. Steiger published, about four years ago, The Cyclopædia of Education, edited by Messrs. Kiddle & Schem, two of the New York School Superintendents. The present work is an abbreviation of the larger volume, made by omitting matter of only occasional interest and value to the professional teacher, and contains solely what is of every-day need, which may be obtained at a moderate cost, and yet supply a large amount of information on a great variety of subjects, such as could be obtained only with considerable difficulty from large and expensive works. The arrangement of Subheads in the longer articles greatly facilitates the use of the book. It should be in every teacher's library.

POINTS OF HISTORY, *by John Lord. New York, A. S. Barnes & Co.*—This book gives in "question and answer" style, the chief facts in the history of the world. Little attention is given to Ancient history, and special prominence is given to England. The author shows good judgment in giving events more in detail during the present century. It could not supplant other histories, but would enable one to review history fairly.

MAGAZINES.

September number of the *Atlantic Monthly.* Contents:—"Dr. Breen's Practice," Chapters IV.—VI., W. D. Howells; "Koschei, the Deathless, or The Diffusion of Fairy Tales," by John Fiske; "Harvest Noon," Edith M. Thomas; "In Exile," Part II., Mary Halloch Foote; "Housekeeping Hereafter," J. V. Sears; "The Portrait of a Lady," Chapters XLIII.—XLVI., Henry James, Jr.; "Post Prandial, Phi Beta Kappa, 1881," Oliver Wendell Holmes; "The Katrine Sagar," Part I., H. H.; "The Future of Harvard Divinity School," William Chauncey Langdon; "The Dramas of the Elder Dumas," J. Brander Matthews; "The Attempt on the President's Life," E. L. Godkin; "Mr. Howell's New Book;" "The Rise and Fall of the Confederate Government;" "Some Recent Biographies;" "The English Colonies in America;" "Transcendental Physics;" The Contributors' Club; Books of the Month.

THE POPULAR SCIENCE MONTHLY. It is doubtful if for fifty cents any other volume could be purchased containing so varied and so instructive information as the September number of this magazine. Herbert Spencer's "Political Institutions, and Dr. Felix Oswald's "Physical Education" are continued. A very able reply is given in the article of Honorable Auberon Herbert on "State Education: a Help or a Hindrance?" "The Progress of Higher Science Teaching" criticises the introduction of too much of the "mathematical conundrum" work into Science teaching. One of the best papers is the concluding part of the article on the Circulation of the Blood. There are besides these, "Ancient Copper Mines of Isle Royale," "Writing Physiologically Considered," "Modern Basis of Life Insurance," "Measures of Length," "Are Cemeteries Unhealthy?" "Inheritance," "The Australian Aborigines," "Unexplored Parts of the Old World," What is a Molecule?" Sketch of James Craig Watson, and Editorial. It is one of the best numbers yet issued.

SCRIBNER'S MONTHLY MAGAZINE.—The Stories and Editorial Departments are choice and ably conducted, as usual. The three leading illustrated articles are, "The Society of Decorative Art," "The Coniferous Forests of the Sierra Nevada," and "The Wheel as a Symbol of Religion." The first describes the recent exhibition of the American Art Society, and contains 22 illustrations. It will prove of more suggestive benefit to our students than many of the works on the subject.

HARPER'S MONTHLY MAGAZINE.—The perfection of attractive arrangement seems to have been reached in the September Harper. Poetry and pictures, history and travel, story and song are most charmingly grouped. One can almost feel in reading it that he is enjoying the real delights of the English Brighton with the pictured beauties he meets on the pages, or rowing and fishing in the Thousand Islands, with the other articles of the magazine thrown in, to read on the beach, or under the shade tree. Few who begin it will care to leave it till finished.

HARPER'S WEEKLY continues the tales "The Beautiful Wretch," "Christowell," and "A Fight for Hire." "How to Bathe," in the number for August 6th, gives some valuable hints. Every teacher should read it. The caricatures and drawings are good. Teachers could find much in this journal to interest and improve their pupils.

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The Publishers frequently receive letters from their friends complaining of the non-receipt of the JOURNAL. In explanation they would state, as subscriptions are necessarily payable in advance, the mailing clerks have instructions to discontinue the paper when a subscription expires. The clerks are, of course, unable to make any distinction in a list containing names from all parts of the United States and Canada.

"SUPPLEMENTARY READING."

There has been a universal stir among the educational publishers in England and America during the past two years in producing "supplementary" reading matter for schools. There has been a great amount of trash issued under this dignified heading, but there is also some of a very high class, as regards selections, arrangement, and mechanical execution. For the very little ones we strongly commend *Our Little Ones*, and *Little Folks' Reader*, both published in Boston; the former by the Russell Publishing Company, and the latter by D. Lothrop & Co. There is not the slightest question that *Our Little Ones* contains the finest engravings ever inserted in a child's magazine. It is edited by that well-known friend of children, Oliver Optic, and is not only suitable as a child's "supplementary" reader, but would be undoubtedly the most charming means of enabling children *to teach themselves to read* before entering school.

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DELIBERATE LEGISLATION.

—We have on several occasions urged the propriety of delay in taking final action in reference to School matters in the legislature. We suggested that important questions should not be decided during the session in which they are introduced. It is well that changes should only be made after the most careful consideration, so that what is done may not soon have to be undone.

It is with much satisfaction that we note the fact that Mr. Mundella, Minister of Education in England, has set an example in this respect worthy of imitation by those in authority in Canada. When he decided to introduce a new Code he first called together a committee of inspectors and others, from whom he received suggestions and assistance in preparing the proposed changes. Then he submitted his proposals to parliament, but instead of pressing them, or allowing them to become law, he withheld final action until they could be submitted to the public. He requested practical men to consider them, and give him the benefit of their views. In this way he has secured the counsel of the teaching profession through their associations, and the educational journals; and of the interested public through the newspapers. With such a host of practical advisors representing all classes and interests, Mr. Mundella will be able to meet parliament in 1882 prepared with an amended code, which will embody the best public opinion concerning the questions with which it deals.

We respectfully direct the attention of our Canadian Ministers of Education to the course pursued by Mr. Mundella. Hon. Mr. Crooks has already adopted the plan of submitting certain questions to teachers for their consideration before introducing them to parliament. We believe that he might do so to a greater extent with advantage. With conventions meeting in every county twice a year under the departmental regulations, with the provincial convention meeting annually, and with a legislative committee specially appointed by that association, and representing the three sections of the teaching profession, Ontario has unsurpassed facilities for obtaining the opinions of teachers in regard to any educational question. Fortunately in enlightened communities educational questions are discussed without reference to party, and the plan of submitting proposed amendments to the people, would have the effect of still further removing School matters from the arena of party politics. A School Bill would not then be a party measure, but a measure of the people. The following language used recently by M. Gambetta is appropriate in this connection. "We place the interests of the great question of public instruction above all personal quarrels, and it pleases me to see that, in the midst of the inevitable antagonisms of public life, all good citizens are united on this point. Of all the efforts of thinkers, writers, and statesmen, there is only one which is really efficacious, profound, and productive—viz., the diffusion of education, that social capital, the best of all capitals, which gives every man who comes into the world the means of gaining all other capitals, and thus of securing a position without force, without violence, without civil war."

RESOLUTIONS OF THE INSPECTORS' SECTION.

—The attendance of Public School Inspectors at the late Teachers' Convention in Toronto was more numerous and more representative of the whole of Ontario than at any convention for some years. Several important questions were brought before the Section, and the discussions were animated and thorough. In order to complete its work the Section continued in session on the day following the adjournment of the general association.

The most important question which engaged its attention was the training of teachers. There is no question of more vital importance than this, in connection with an educational system. Everything else may be of the most perfect character, but unless the individual teachers are well trained, earnest, and enthusiastic; comparatively feeble, if not positively evil results will be produced. Enlightened School Boards, wise legislation, fine school buildings and expensive apparatus, will fail to produce intelligent and well educated pupils, if the teachers are listless, indifferent and ignorant regarding the principles that underlie the correct methods of teaching. Even the inspectors feel themselves to be nearly powerless for good, when they are so unfortunate as to have a large number of these dead-weight teachers in their districts. They neutralize the best efforts of the inspectors in their schools, and at the Conventions and other gatherings of teachers held for professional instruction and inspiration.

Several resolutions relating to the training and certificating of teachers were passed by the Section. One of them recommended that the Second Class non-professional examination should be separated from the High School Intermediate Three reasons were urged for this course: (1). That teachers should be examined in reading and penmanship, (2). That teachers should have no "language option" for the Natural Science group, (3). That a different standard should be adopted in reading the papers of school children, and candidates for teachers' certificates. We can see considerable force in the last two reasons, but we think that the best place to test both reading and writing is at the professional examination. The plan at present adopted of giving special instruction at the Normal Schools in writing, drawing, music, drill and calisthenics, and reading, is an excellent one. If the work is properly done, the best results must follow. Proficiency in these branches, and familiarity with the best methods of teaching them, have a good deal to do with deciding a teacher's fitness for his profession. We are glad to know that the Central Committee in conducting the professional examinations pay particular attention to these subjects, and also regard the ability to write and spell the English Language correctly, as an essential qualification in the make up of a good teacher. With regard to the second suggestion, the same papers now prepared for the Intermediate might still be used for the Second Class examination, if all Second Class Candidates were required to take the Natural Philosophy group. It is urged against this, that natural science is not so well taught in the High Schools as the foreign languages. If this be true, and we fear the charge is correct, then means should be taken to improve the character of the science teaching. One of the first steps to be taken to bring about this desirable change would be to make it essential for teachers to take the science group. Classes would then have to be formed in High Schools and conducted in the best possible manner.

Another resolution directed the attention of the Minister of Education to the question of professional training in the Provincial Normal and Model Schools. The opinion was freely expressed by nearly all the inspectors present, that the Second Class teachers of the last few years are generally inferior to those who were trained at the Normal School in former years. The deficiencies specially complained of were, lack of, and frequently contempt for, what is known as "professional spirit;" and general haziness concerning the best methods, or any definite method, of teaching the elementary school subjects. If we accept the testimony of the inspectors, we must conclude that the young men and women of our country are sadly deficient in those qualities which a teacher should possess, or that some part of our training system needs strengthening, or sharpening. Without making any charges, we have no hesitation in stating that a Normal School which does not inspire teachers with higher motives and deeper enthusiasm, fails to accomplish its best purpose. We hold also that every teacher who leaves a Normal School should be definitely impressed with the idea, that there is one way of teaching each subject which is better than others, and that he understands the "more excellent way" sufficiently well to put it in practice. Considerable surprise was expressed at the fact that those First Class students in attendance at the Normal Schools were not compelled to practice in the Model Schools. To us it seems to be a pity that any one can obtain a First Class Certificate without being compelled to undergo special professional training in addition to that received before securing a Second Class certificate, but there is no reason why those First Class Candidates who attend the Normal Schools should be compelled to teach in the Model Schools, while those who study at other places are allowed to get just as high a standing without such practice. We would like to see all those who attend the Normal Schools to study for First Class Certificates compelled to practise extensively in the Model Schools, and we hold further that they should receive a thorough course of instruction in Psychology, the History of Education, &c.; but we claim that all First Class Candidates should be compelled to take this course, or that those who do so should receive a special certificate.

The other resolutions concerning the training of teachers referred to the extension of certificates and the supply of teachers in those counties in which the number is too small. It was recommended that the County Boards of examiners be allowed to deal with the extension of third class certificates, and that they be permitted to require those applying for such extensions to write at some of the departmental examinations. This would be a relief to the Minister of Education, and would also be in harmony with his general practice of allowing the local authorities to deal with those questions which cannot injuriously affect the educational system of the country. If there was

any danger that local boards would abuse their power by granting too many extensions, it would be wise to retain the control in the Education Department. There is no such danger however, as the general complaint from inspectors seems to be, that too many extensions are granted by the present system. We heartily approve of the resolution asking that in those counties which can not obtain sufficient teachers, the best of the unsuccessful Intermediate Candidates be allowed to teach for a time, after being trained at the County Model School.

The 29th clause of the Amended School Act of 1879 was unanimously condemned, and its repeal waged strongly. The action of the inspectors was afterwards sustained by the united association without a dissentient voice. We are hopefully awaiting the time when this obstruction shall be removed from the pathway of educational progress.

The inspection of Mechanics' Institutes occupied a good share of attention, the general opinion being crystallized in a resolution approving of their inspection by the inspectors as formerly, and urging that they should be fairly remunerated for their work.

PUBLIC SCHOOL TEACHERS' SECTION.

A good deal of important work was done by this section, although it was not all expressed in resolutions. Much of the time was spent in discussing the "over-supply" of teachers. It was somewhat remarkable that at the same time the Inspectors' section were giving their earnest attention to a difficulty which "stares some of them in the face," namely, the "under-supply" of teachers. The fact is, that the Intermediate results this year render it probable that teachers will be scarce throughout the Province for some time. The discussion in the Masters' section took a more practical turn, however, than the topic would suggest, and resulted in a resolution favoring the certificating of teachers according to their success. We would be very glad to see any method adopted by which teachers could receive substantial recognition on their certificates for marked success in their profession. Would it not be possible to have blanks left on the back or at the bottom of the Departmental Certificate in which Inspectors could, from year to year, grade teachers in accordance with same uniform method of valuing professional skill? Such a plan is adopted in England.

The Masters passed a resolution concerning the representation of counties and other constituencies at the Provincial Convention, as follows :—"That each local association be entitled to three delegates, who shall be full members of this association; that any teacher or inspector may be a privileged member on payment of fifty cents, such privileged member to be entitled to all the privileges of this association, except voting at the election of officers, or when the yeas or nays are called; and for purposes of representation the section shall be considered a local association." This is an important question, and we endorse the views of the Section. More interest would be taken in the convention by local associations, if it were representative, and more attention would necessarily be paid to its conclusions.

MAKE TEACHERS' ASSOCIATIONS PRACTICAL.

—Too often the meetings of the County Teachers' Associations produce little practical result. They ought to secure two objects—the awakening of genuine enthusiasm in prosecuting the teacher's work, and the dissemination of improved methods of teaching. The work done with the latter object is generally of a fragmentary kind, and there are no sufficient means for recording and placing permanently in the hands of each teacher the suggestions made or the decisions arrived at in conventions. Teachers cannot get all the good points out of an address by merely listening to it and the discussions arising from it. Even if they could do so at the time, they would be pretty certain to forget some of them. Some plan is needed which will systematize the work done at the conventions, and at the same time provide a ready means for preserving a permanent record of the work done at them. We have not seen anything which promises to secure both these desirable results so fully, as the plan adopted by the Toronto Teachers' Association. A text-book on education, or methods of teaching, is selected and is first read by all the teachers in the city. This book, or certain portions of it, then forms the basis of careful discussion at the next convention. Amendments or additions are made to the views of the auti or, and these are noted on blank pages interleaved through the book. Each teacher, or each school possessing one of these books, it is always easy to find the approved method of teaching any subject. This book becomes the most modern work on the subjects of which it treats, provi led the leading members of the Association keep abreast of the times. Each member has a record of all that is valuable in the work of the Association, and even absent members may easily gain possession of the new ideas advanced by their fellow teachers. The plan is worthy of a trial.

UPPER CANADA COLLEGE.

The Minister of Education promised in the House last session that he would make certain changes in the staff and general management of Upper Canada College. The revolution has begun. Principal Cockburn has resigned. After twenty years of service, he said good-by to his boys on the 30th of September, and retired from the teaching profession. We are glad that he is able to do so with such bright prospects for a happy future. He was an able man, and he has left his mark in Canada, but he might have made even a deeper and more lasting impression, if he had not kept himself aloof from his brethren in the teaching profession. The fact that his school was not a part of the general system of Public Schools, doubtless had its influence in causing him to be reserved, but both he and his fellow teachers lost by his seclusiveness.

His successor is too well known to require any eulogy. He is as thoroughly acquainted with the Schools of Ontario, as any other man. He understands Canadian Sentiment and is in harmony with it. He is a skilful teacher, and a clear-headed, practical man. Whatever may be the design of the Minister of Education regarding the College, we may rest assured that it

will be a Canadian institution in future, in spirit as well as location.

In the appointment of Mr. Buchan, one change is distinctly indicated. Classical teaching will no longer be the supreme aim of the College. The English language and its literature, will be placed in its rightful position at the head, with Moderns and Science as its immediate neighbors.

We do not believe that the country would be willing to sustain Upper Canada College as a mere High School even under Mr. Buchan's management. We have no idea that this is what Mr. Buchan wishes it to become, however.

The CANADA SCHOOL JOURNAL was the first to suggest that the College should be set apart for the higher education of women. Mr. Goldwin Smith fathered our suggestion, although he had no right to be more than its god-father, and many have approved of the idea. We do not relinquish the hope that, when we are ready for it, the government will supply an institution for the higher education of those women in our country who wish to advance beyond the Collegiate Institute lines; but if Mr. Buchan aims to found a provincial school, in which the sons of those who are determined to send their children from home to be educated, shall receive a thoroughly practical training, he will receive our support. Other provision can be made in due time for our women.

We have no sympathy whatever with the "jingo" element who decline to send their children to a Public School through false pride. We have always held that as a rule, boys should attend the High School or Collegiate Institute in their own vicinity. There is, however, a large class of men in Canada who are compelled to be frequently absent from home, or who are so engrossed in business, that they have not the time to take a parent's proper and essential interest in the direct work of educating their sons. They are willing to pay well for the right kind of supervision, which they are not themselves able to give, and there are quite a sufficient number of them to support any school which will prove itself to be the best boarding-school in the country. With its large endowment, with its government aid, and with its prestige and associations, Upper Canada College under its new Principal should make itself one of the needs of Ontario. It is, however, a grave question for the consideration of the Government, to decide how long the College should continue to receive aid from the School Funds of the Province. This question will doubtless soon be forced upon their attention, and unless they can show that it is a necessary part of the Public School System, only one answer can be given to it.

The appointment of Mr. Buchan leaves only two High School Inspectors. It is the intention of Mr. Crooks to have the High Schools inspected only once a year in future, so that two High School Inspectors will be sufficient. The Intermediate examination will, in most respects, form a substitute of one inspection. We congratulate Mr. Crooks on making a reduction in the expense connected with High Schools, without reducing their efficiency.

NEEDLE-WORK BY BOYS.

—We published last month an article, written by Mr. Hughes, Public School Inspector in Toronto, recommending that boys as well as girls should be required to do needle-work in the Junior classes in Public Schools. In confirmation of his views, we note that the new Code introduced in England by Mr. Mundella proposes to make it *compulsory* for boys under seven to do the same needle-work as girls.

Why do not teachers try to teach this subject as they do others? Why should not all the pupils of a certain grade do the same kind of needle-work, as they write in the same copy-book and work the same rules in arithmetic? In England, and some of the United States cities, a whole class is found working at the same kind of needle-work as they do with their other lessons. The teacher uses the black-board in explaining a stitch or a cut, or the method of attaching and adjusting parts of a garment, just as she does in teaching the correct formation of a letter, or the solution of a problem. As a guide to those who would like to systematize the work of teaching needle-work, we give the programme in this subject proposed by the New English Code.

NEEDLE-WORK SCHEDULE.

BELOW STANDARD I.

Boys and Girls.

Needle drill.—Position Drill.

Strips (18 inches by 2 inches) in simple hemming with coloured cotton, in the following order, viz. :—1. Black. 2. Red. 3. Blue.

Knitting-pin drill.

A strip knitted (15 inches by 3 inches) in cotton *or wool.*

STANDARD I.

1. Hemming, simple *or counter*, seaming, felling, *plaiting.* Any garment which can be completed by the above stitches, *e. g.*, a child's plain shift or pinafore.

2. Knitting. 2 needles, plain and purled, *e.g.*, a strip on which to teach darning in Girls' Upper Standards, or a comforter or muffatee.

STANDARD II.

1. The work of the previous Standard with greater skill, and sewing on strings. Garment, an apron, pinafore or plain shift plaited into a band.

2. Knitting. 4 needles, plain and purled, *e.g.*, wristlets or muffatees.

STANDARD III.

1. The work of the previous Standards with greater skill, and, in addition, stitching garments, a shift or apron plaited into a stitched band.

Herring-bone stitch. The stitch only on coarse canvas (cheese cloth) or flannel.

Darning, simple. } On cheese-cloth or calico.
Marking, simple. }

2. Knitting. 4 needles, *e.g.*, a sock.

STANDARD IV.

1. The work of the previous Standards with greater skill, and, in addition, gathering, stroking, setting-in, *herring-bone*, marking, button-hole, sewing on button. Garment, a plain night-shirt, night-gown, petticoat, or child's frock, either in calico, coloured shirting, or flannel.

2. Darning, plain (as for thin places), in stocking-web material and woven fabric.

3. Knitting. 4 needles, a man's sock or girl's stocking.

STANDARD V.

1. The work of the previous Standards with greater skill, and, in addition, tuck run. Garment, a night-gown or child's frock.

2. Knitting. 4 needles, a knickerbocker stocking.

3. Darning, simple, and a hole in stocking-web material.

4. Patching in calico and flannel.

5. Cutting out any garment such as a child in Standard III. can make up.

STANDARDS VI. AND VII.

1. The work of the previous Standards with greater skill, and whip stitch, setting-on frill, *knotting*, coral-stitch (feather stitch). Garment, a night-dress with frill, or baby's robe, or child's fancy pinafore.

2. Darning, plain and Swiss, and grafting on stocking-web material.
3. Patching and darning on woven fabrics, *e.g.*, calico, flannel, serge, &c.
4. Knitting. 4 needles, a long stocking with heel thickened.
5. Cutting out any under-garment suitable for making up in Standard IV.

The work printed in *italics* is optional.

—The article on History in the current series of the *Encyclopedia Britannica*, though an obviously incomplete treatment of the subject, nevertheless embodies much clear and valuable thought. The distinctions between history and tradition, history and myth, history and the simple record of facts and dates, are lucidly pointed out. Civilization alone provides the proper subject matter of history. In his state of primitive savagery, man takes no note of his social relations, and spends but little labor in recording the seemingly disconnected events which make up the life of successive generations. The stagnant existence of some semi-civilized people provides conditions scarcely more favorable for the development of genuine history. There is sequence of time and succession of generations, but little or no social evolution and progress. Events stand to one another in the relation of dull monotonous similitude. The spirit of history is wanting in "the vast and vacant annals" of India, China, and Egypt. True history does not date further back than the historical books of the Old Testament. The Greek records overlap the Jewish, while the Roman follow in close succession. For long ages civilization and history dwelt exclusively on the shores of the Mediterranean sea. The distinction between the standard types of ancient and modern historical composition is admirably portrayed. The former is at once uncritical and artistic. Imagination and passion play quite as conspicuous parts as research and reason. But in some of the early, though not the earliest of the Greek and Roman historians, such as Thucydides and Tacitus, without any sacrifice of artistic form and coloring, a more philosophical style of writing and treatment was introduced. These great writers represent the standard of history which remained unaltered almost to our own day. Careless as regards research "its aim was perfection of literary form, weight and dignity of language, depth of moral and sagacity of political reflection." While the Greeks were the inventors of this species of history, displaying therein the same delicate appreciation of beauty and artistic symmetry as are revealed in their sculpture, their painting and their poetry, they excelled their Roman imitators far less as historians than as sculptors, painters and poets. The author (Dr. Morrison), acutely accounts for this fact by the robuster national life, the loftier and more vigorous patriotism which characterized Rome. The genesis of the new or sociological type of history is elaborately traced. Its qualities are almost the precise opposites of those which distinguish the type superseded. Patience and minuteness of research are its crowning features. Some of the essayist's conclusions are too sweeping. He regards Gibbon as the only historical writer anterior in date to the end of the 18th century, whose work has not been superseded by the superior insight and research of subsequent historians. Our readers however would do well to read this instructive essay for themselves and form their own conclusions.

—Canadian teachers should be thankful that their lot is not quite so bad as that of their co-workers in some other lands. The following advertisement was recently inserted in an English paper:—"Mistress; Gardener; Choir.—Wanted, at Michaelmas, certificated Mistress, for Mixed School. Must be thorough Churchwoman, good disciplinarian, and successful Teacher. Sunday-school. Good house (mainly furnished), and garden. Salary £40, and half grant, which this year is £22 14s., but might be much increased. *Husband as Gardener, &c., and sing in choir. Wages about 12s. a-week.* Address, Vicar."

—It has so far been reserved for a Boston author, Mr. Francis Parkman, and a Boston firm, Messrs. Little, Brown & Co., to write and publish the most exhaustive and scholarly works relating to the discovery and early history of Canada. We refer our readers to the advertisement of Little, Brown & Co. in this number of the JOURNAL. In addition to Mr. Parkman's works, they publish some exceedingly valuable books for teachers. We think those by Mr. Bartlett to be of special interest and importance.

Official Department.

PROVINCIAL AND COUNTY SCHOOLS.

TEACHING OF HYGIENE IN PROVINCIAL NORMAL SCHOOLS.—FURTHER REGULATIONS RE COUNTY MODEL SCHOOLS.

The Department of Education, upon consideration of reports of the Honorable the Minister of Education, have ordered that the following regulations with reference to the teaching of Hygiene in the Provincial Normal Schools, and further regulations in regard to County Model Schools be adopted.

NORMAL SCHOOLS.

Instruction in the teaching of Hygiene in the Provincial Normal Schools.

In instruction in hygiene in each of the Normal Schools, there shall be included teaching lessons on temperance, the teacher using such books, amongst others, as the "Temperance Lesson Books," by Benjamin Wood Richardson, M.D., and "The Temperance Cyclopædia," by the Rev. William Reid, and also instructing in the chemistry applicable to this subject.

COUNTY MODEL SCHOOLS.

Further Regulations.

The conditions required by the regulations, being Chapter 6 of the Compendium, as now amended, will be strictly enforced, and must be fully complied with on and after the seventh day of July next, and especially in reference to the prescribed qualifications of the Head Master and two Assistants.

2. Instead of two terms of two months each in the academic year, there shall be two terms of three months each; the first shall begin on the morning of the first Tuesday in the month of September in each year, and shall end on the afternoon of the first Friday in the month of December. The second term shall begin on the morning of the second Tuesday in the month of January, and shall end on the afternoon of the second Friday in the month of April.

3. The teachers-in-training shall employ their time during the session of the Model School according to a time-table, to be drawn up by the Principal. In this time-table provision shall be made, not only for formal instruction in education and other subjects during at least two hours per diem, but also for the employment of teachers-in-training for at least three additional hours daily in observing and practising teaching. About one hour per diem should be devoted to giving instruction in school organization, government, and methods of teaching. It is recommended that about eighteen

hours per term should be devoted to teaching reading and elocution, about the same to mental arithmetic, about seven hours to school law and regulations, and about six to school hygiene. The time-table shall be submitted to and approved by the Public School Inspector, and a copy of that drawn up for the first session shall be transmitted to the Department before the session is half over.

4. The Public School Board is required to employ, during the period of each of such Model School terms, a duly qualified assistant teacher to take the place of the Principal of the Model School in teaching the ordinary classes, in order to relieve the Principal of such duty during the period of at least one-half of the school hours in each day.

5. The Principal of each Model School shall employ at least one-half of the school hours of each day during each of the said terms in the instruction and supervision of the teachers-in-training.

6. The Principal of each Model School shall give instruction in penmanship, letter-writing, and English composition to such teachers-in-training as need them, and County Boards of Examiners shall withhold certificates from candidates who are deficient in any of these subjects.

7. Each Model School shall be provided with a separate room for Model School purposes, and this is to be an essential condition in future.

8. The inspection of County Model Schools shall be governed by the regulations now in force, and which were approved on the 30th September, 1879.

9. Public School Inspectors shall report, in accordance with No. 6 of such regulations, to the Education Department immediately upon the expiry of each term, instead of once in each year. If such report is found satisfactory by the Minister, the Public School Board will be entitled to receive for that term in respect of such Model School, one-half of the amount apportionable by the Education Department in support of each County Model School, out of the grant of $150 annually voted by the Legislature for that purpose, and by Section 11 of the School Act of 1881 the County Council is also required to provide in aid of each Model School in such county an amount at least equal to such amount apportioned by the Education Department.

10. The County Board of Examiners may, by resolution of such Board, require from teachers in training in each County Model School, the payment of a fee for instruction therein, but not to exceed five dollars per term.

11. The Legislative and Municipal grants, as well as all sums from fees for instruction, shall be payable to the Public School Board with the view of enabling such Board to maintain the County Model School at the standard prescribed by the regulations, and the classes of the Public School at the same time in full efficiency.

12. The foregoing shall take effect from the first day of January, 1882.

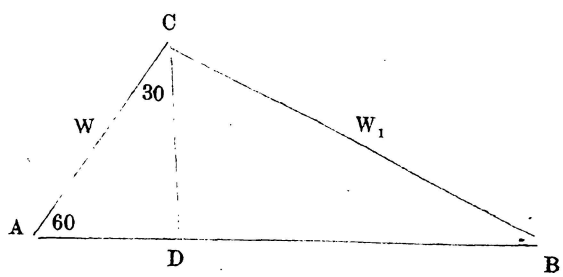
Mathematical Department.

SOLUTIONS TO INTERMEDIATE EXAMINATION PAPERS, JULY, 1881.

(Continued from last month.)

NATURAL PHILOSOPHY.—*(Continued.*

6.



Drop CD perpendicular on AB. Then the tension of the string to the power in the inclined plane CAD = power in plane CDB, acting (1) parallel to the plane ; (2) parallel to the base. Let W be the weight on AC, and W_1 on CB ; also T = tension of string. Then (1) taking A=60°.

$$T:W = CD:AC = \sqrt{3}:2$$
$$T:W_1 = CD:BC = 1:2$$
$$\therefore W:W_1 = 1:\sqrt{3}.$$

Also (2)

$$T:W = CD:DA = \sqrt{3}:1$$
$$T:W_1 = CD:DB = 1:\sqrt{3}$$
$$\therefore W:W_1 = 1:3.$$

7. See Smith's *Hydrostatics*, chaps. II. and IV.

The pressure on the table will be increased by the weight of the wood. The pressure on the bottom and sides will be increased, since the wood displaces some of the water and increases the depth of the column of water. In the second case no change would take place in the pressure on the table.

8. See Smith's *Hydrostatics*, pp. 66, 89.

As the bell sinks the mercury rises, and *vice versa*. In the pump, the mercury falls as the vacuum becomes more and more perfect, *i.e.*, as the water rises. See Smith, p. 55.

9. The pressure on the piston=weight of water in pipe

$$=12\times\left(\frac{9\times 22}{7}\right)\times\frac{1}{144}\times\frac{125}{2}=\frac{33000}{32\times 7}=147.321.$$

See H. Smith's *Hydrostatics*, p. 75.

CHEMISTRY.

1. (1) Potassic nitrate and hydric sulphate produce hydric nitrate and hydric potassic sulphate.

Potassium = 39·04, Nitrogen 14·01, Oxygen = 15·96, Hydrogen =1, Sulphur=31·98.—*Roscoe and Schorlemmer* (1878).

(3) H_2SO_4 and HNO_3 would redden litmus or any vegetable blue ; KNO_3, a neutral salt, would not affect the litmus.

2. See Roscoe's Primer, pp. 64, 65 and 95. Taking the combining weights in round numbers

$H_2SO_4=98$, $HNO_3=63$. Hence

98lbs. H_2SO_4 give 63lbs. HNO_3

$\left(\frac{98}{63}\times 3\frac{1}{2}\right)$ lbs. " $3\frac{1}{2}$ lbs. HNO_3

$5\frac{1}{9}$lbs. H_2SO_4.—Ans.

3. See Roscoe's Primer, p. 57. The lamp is not safe when (*a*) exposed to a current of air moving at 8ft. per second, (*b*) when the gauze becomes heated up to the point of ignition of fire-damp. The metallic gauze acts as a first-rate conductor of heat, and cools the flame below the temperature of ignition before it can reach the external gas.

4. To prepare hydrogen. See Roscoe's Primer, pp. 25 and 96. This will do for class purposes. Pure hydrogen is best prepared by the electrolysis of distilled water.

To prepare nitrogen. See Roscoe's Primer, p. 12. A little alcohol will do instead of phosphorous. This is the simplest method, but the gas is not pure. Pure nitrogen may be obtained by heating a concentrated solution of ammonic nitrite $(NH_4)\ NO_2=N_2+2H_2O$. The simplest way is to act on ammonia with chlorine $8NH_3+3Cl_2=N_2+6\ (NH_4)\ Cl$, but the experiment is dangerous, as NCl_3 may be formed, which is frightfully explosive. Experiments with hydrogen should show its extreme lightness, peculiar flame, explosiveness when mixed with air or oxygen, insolubility in water, effect on the voice, occlusion by metals, etc. Our space forbids extended descriptions. There are few experiments possible with nitrogen, and these are chiefly negative, showing what nitrogen will not do.

5. See Roscoe's Primer, p. 66. Equal weights ignited in pure oxygen produce the same weight of carbonic acid and nothing else. Hence they are identical in their composition.

6. $Ca\ CO_3+2(HCl)=CO_2+Ca\ Cl_2+H_2O$.

See Roscoe's Primer, p. 45.

$Na+H_2O=NaHO+H$.

See Primer, p. 23.

$2(NaCl)+2(H_2SO_4)+M_nO_2$

$=Na_2SO_4+M_nSO_4+2H_2O+Cl_2$ (Primer, p. 68).

$P_2O_5+3(H_2O)=2(H_3PO_4)$, orthophosphoric or tribasic phosphoric acid.

See Primer, p. 12. This is the liquid in the dish after the white fumes $(=P_2O_5)$ have been absorbed.

7. Flame may be defined as gas or vapour heated to a temperature at which it becomes visible. Solid particles usually emit light when they are raised to a red heat from 426° C. to 538° C. (800° to 1,000°

Fah.). Gases, on account of their expansibility must be raised to a far higher temperature; consequently the point of visibility is seldom reached, unless the gas itself is combustible, *i.e.*, capable of producing by combination with the oxygen of the air the requisite degree of heat. One of the essential conditions of flame, then, is the presence of a combustible vapour, as gas, or of a liquid or solid, capable of being converted by the heat of the combustion into a combustible gas or vapour, as alcohol, oils, fats, candles, etc. A diamond, or a piece of dense, thoroughly carbonized charcoal, will burn away in oxygen with great intensity, but with a steady glow and no flame, because the carbon is not capable of being converted into vapour; while sulphur burns with a bright, large flame, because the heat converts it into vapour before the combination takes place.

As gaseous matter is essential to flame, so solid particles, suspended in the flame and brought to a white heat, are essential to its luminosity. The flame of hydrogen is the hottest known, but it is all but invisible, from the absence of solid matter. It may, however, be made visible by blowing very fine powder through it.

When sulphur is burnt in oxygen, it does so with a pale violet light. Phosphorus so treated gives forth dense white fumes of the most intense brilliancy; the reason of these phenomena being, that sulphur, in combining with oxygen does so to form sulphurous anhydride, SO_2, which is gaseous at this temperature; while the phosphorous under like circumstances, forms phosphoric anhydride, P_2O_5, which remains for a short time in the solid form, and being suspended in the flame in a very minute state of sub-division, becomes heated to so high a temperature as to emit a beautiful white light.

The brightnes or illuminating power of a flame depends mainly on three things:—

(1) *On the temperature of the gases which are combining together* to produce the flame. P. burns in Cl. with a very feeble light; but if the Cl. and P. vapour be both heated the combustion takes place with a dazzling white light.

(2) *On the density of gases.*—Dr. Frankland has shown that the pale, smokeless flame of a spirit lamp may, by condensing the air around, be made as bright as that of coal gas, and that by pushing the condensation far enough, it may be even rendered smoky. (See *Tyndall's Heat*, 4th ed., pp. 46-52).

(3) *On the presence of solid particles within the area of combustion.*—All illuminating bodies in use, as coal gas, oil, wax, tallow, fats, etc., are hydrocarbons—*i. e.* they consist of a mixture of various compounds of carbon and hydrogen in different proportions, having the general formula $C_m H_n$. Directly we apply heat the oxygen of the air seizes on the hydrogen of the hydrocarbon producing the heat of the oxyhydrogen flame. The carbon is set free in innumerable solid particles, which are raised by the burning hydrogen to a state of incandescence. It is to these white-hot particles of carbon that the light of coal gas, our lamps, etc., is due. (Condensed from Kemshead's Chem.)

8. See Roscoe's Primer, p. 96:

65 lbs. Zn give 161 lbs. Zn SO_4

$\frac{65}{161} \times 3\frac{3}{4}$ lbs. Zn give $3\frac{3}{4}$ lbs. Zn SO_4

$1\frac{331}{864}$ lbs. Zn.—Ans.

Correspondence.

STRONG AND WEAK VERBS.

(As Mr. Mason's Grammars are so deservedly popular in Canada, we are sure our readers will be pleased to read his treatment of the above subject. The following letter was written to the *Educational Times* in reply to the Rev. Canon Daniel, whose work Mr. Mason had previously criticized.)

Sir,—In his reply to my criticism on his treatment of Strong and Weak Verbs, Canon Daniel makes a charge which I claim permission to repel, and asks a question which I should like to be allowed to answer.

The charge against me is one of unfairness, or something worse, and is couched in the following terms:—

"Mr. Mason's mode of attack is, to say the least, somewhat extraordinary. He goes out of his way to assume a misprint in my book, and then, with much self-satisfaction, proceeds to demolish the errors that result from his own emendation. He assumes that I explain the past tense of weak verbs by reduplication. I do no such thing. What I explain by reduplication is *the distinctive ending* of the past tense of weak verbs. That ending is *-ed*, *-d*, or *-t*, a vestige of the reduplicated past *did*."

I am aware that it is a common device in controversy, for the writer who is criticized to lay hold of some subordinate matter, as to which he thinks he has caught his adversary tripping, dangle this before the eyes of the reader as if it were the sum and substance of the whole affair, administer an indignant rebuke to the critic, and ride off with the honors of war. I should be sorry to think the Canon capable of doing this deliberately, but in his haste he has done what comes to much the same thing. Any one who takes the trouble to read carefully what I wrote, will see that it is a complete misrepresentation to state that "my attack" is based upon an assumed misprint. My criticism was mainly directed against the Canon's theory as to the way in which the vowel change in strong verbs is connected with reduplication, and his heresy on the subject of *mixed preterites*. The assumed misprint *has nothing to do with either of these points*. It was only by the way that I made the suggestion as to the misprint, as a possible clue to the explanation of the following very puzzling paragraph.—

"The origin of the distinctive ending of the past tense of weak verbs is to be found in the ancient mode of forming the perfect tense by reduplication, *e.g.*, Lat. *curro*, I run; *cucurri*, I have run. The purpose of reduplication was obviously to give the impression that the action is *thoroughly* done. In Latin and Greek, instances of reduplication are common, but in English the only surviving traces of it are *did*, the past tense of *do*, and *hight*, the past tense of *hatan*, to be called. This reduplication was accompanied by a modification of the root-vowel. In modern English the reduplicated syllable has been dropped, but the modification of the root-vowel which accompanied it has been retained."

Now, I beg the reader to observe that not a word has yet been said to the effect that the said "distinctive ending" has any connection at all with *did*. In the absence of any such clue to the meaning, I think he will admit that "the origin of the distinctive ending of the past tense of weak verbs" was naturally and fairly understood by me to mean "the way in which weak verbs come to have *-ed*, *-d*, or *-t* in the past tense." That this should have come about by reduplication, of course appeared "surprising" to me. Further, it needs very little consideration to see that the rest of the paragraph has all the appearance of having been intended to deal with reduplication as connected with *strong preterites in general*. Surely the suggestion of a misprint, not entirely the fault of the printer (hence part of my criticism), did not require me to go far "out of my way."

However, Canon Daniel ought to know best what he meant. Let us see, however, what his explanation compels him to abide by. The paragraph is reduced, of necessity, to being an account of reduplication as connected with *did*. Respecting this, then, we are told that "the only surviving traces of reduplication in English are *did* and *hight*," and that in modern English the reduplicated syllable has been dropped. How comes it to pass, then, that in both *did* and *hight* it is retained? Really I think the paragraph becomes more surprising than ever.

Now, when it is borne in mind that, if the above quoted paragraph be kept in its present form, we are actually left by Canon Daniel without any explanation whatever of the origin of the formation of the preterite of strong verbs in general, while we have *two* explanations of the origin of the distinctive ending of weak verbs (for we have all about the origin of the *-d* of weak verbs *in the very next paragraph*); and when it is observed that meaning and coherence at least are introduced into the above extract, while the desiderated explanation of strong verbs in general is restored, if for "the origin of the distinctive ending of the past tense f weak

verbs" we read "the origin of the distinctive formation of the past tense of strong verbs," I think the reader will agree with me, that Canon Daniel would have done better if he had thanked me for a simple and much-needed correction, instead of charging me with going out of my way to invent materials for an unwarrantable attack.

And now, Sir, I should like to be allowed to answer a question which Canon Daniel puts to me as a "settler," and which, as it involves an important point of scientific grammar, has an interest that lies quite beyond any personal dispute. I had ventured to assert, not (allow me to observe, in correction of Canon Daniel) that there are no such things as mixed *verbs*, but that "in no English verb was the *past tense* ever formed by the joint use of both systems of formation (reduplication and auxiliary). The Canon replies—

"What does Mr. Mason make of such past tenses as *wept*, *crept*, *leapt*, *swept*, *slept?* He will probably say, that the vowel change in these words has been a consequence of the addition to the present tense of the weak ending *-ed*. Unfortunately for this theory, the vowel change occurred before the *-ed* was added. The old past tenses were *weop* (M.E. *wep*), *creáp* (M.E. *crep*), *hleop* (M.E. *lep*), *sweop* (M.E. *swep*), *slêp* (M.E. *slep*). Can there be a shadow of doubt that, as these old past tenses lost their force, through becoming too closely assimilated to the present, the *-t* was added to strengthen them?"

Well, I think there can; and I think the shadow will develop into substance, and the doubt into emphatic denial. The logic of the above-quoted passage is faulty, and its facts are not accurate. The shortening of stem-vowels, through the addition of a suffix, is not disputed or disputable. My "unfortunate theory" would therefore still remain possible, even were the facts precisely as stated. But they are not. The vowel change that we have in the Middle English forms *wêp*, *crêp*, &c. is not that which we have in *wept*, *crept*, &c. In the latter the vowel is short, in the former it was long. *Wêp*, *slêp*, &c. were sounded, not as *wepp* and *slepp*, but more like *waip* and *slaip*. In Stratmann's Dictionary they are carefully circumflexed. The forms *weep*, *sleep*, *leep*, &c. are common enough in Chaucer. This fact simply annihilates the objection that was to have crushed my "theory," and Canon Daniel's case falls to the ground. Moreover, it does not seem to have occurred to him that there are numerous examples of verbs, like *dealt*, *knelt*, &c., which never (so far as we can trace them) had strong preterites at all.

But, even were the facts as he puts them, I should still maintain that his theory (a quite unexpected novelty, of which no hint is given in his Grammar) is inadmissible. It is contrary to all the analogies of the language. The general law of the formation of weak preterites is that the suffix is attached to the stem of the verb, as we have it in the present tense or the infinitive mood; and there are plenty of examples to show that when, for whatever reason, a weak preterite was preferred to a strong one, it was based upon the stem of the verb, not upon the old strong preterite form. Such forms as *climbed*, *delved*, *shaved*, *graved*, *shaped*, *heaved*, *baked*, *shined*, *waked*, *waxed*, *laughed*, *sheared*, &c. are based upon the present or infinitive stems in *climb*, *delve*, *shave*, *grave*, *shape*, *heave*, *bake*, *shine*, *wake*, *wax*, *laugh*, *shear*, not upon the old preterites *clomb* or *clamb*, *dalf*, *shove*, *grove*, *shope*, *hove*, *book* or *boke*, *shone*, *woke*, *wêx*, *lough*, *shore*. The substitution of weak forms for these has nothing whatever to do with any loss of vigour in the old forms, it is simply a case of the conflict of dialectic varieties, which has ended in one of the rival forms obtaining general preference. The quotations in Stratmann and Mätzer will be sufficient to show that for a considerable time they existed side by side. Language is an organic product; its structure is the result of the action of general laws. It is impossible to allow that the weak preterite suffix was attached sometimes to the stem of the verb, as seen in the infinitive, sometimes to a worn-out strong preterite. Even when inflexions get somewhat worn down, the linguistic instinct of a people, even in the case of illiterate persons, still adheres to their primary use. A costermonger may say, "I *knowed* it long ago," but never "I *knewed* it." Topsy, when dealing with the problem of her existence, "'spected she *growed*," not *grewed*. A weak preterite *wêpte* based upon a (supposed) strong preterite *wêp*, is a formation as impossible as the combination *did sang* instead of *did sing*.

Canon Daniel seems to imagine that I attacked his treatment of strong and weak verbs because it ran counter to some special crotchet of my own. I should be only too proud if I could claim as my own the theory with which his is so palpably at variance. It was Koch's admirable grammar which first gave me an insight into this matter; all that I have done has been to try to understand as thoroughly and explain as clearly as possible what is known on the subject. So far as I am aware, I hold no opinion about it which is not supported by the authority of those who, like Koch, Mätzner, Morris, Skeat, Sweet, Murray, &c., are acknowledged on all hands to be in the front rank of modern English scholarship. It is against these authorities that Canon Daniel has to make good his position, and it was because his account of Strong and Weak Verbs, set forth in a work announced as specially intended for "Candidates for the University Local Examinations, for the Matriculation Examination of the London University, and for other public examinations," is at variance with the views which have been long advocated by our recognised authorities, and which (to the best of my belief) are accepted by the whole of that class of English scholars to whom our leading examiners belong, that I thought it right to call attention to the discrepancy.

I am, yours obediently,

C. P. MASON.

P.S.—It may interest some of your readers if I add a remark or two, for the purpose of elucidating some points respecting the formation of past tenses, which, in my first letter, I did no more than barely state.

First, as to the way in which reduplication passed into vowel-change in the strong forms. It is a curious fact that the root-syllable got weakened by the loss of its initial consonant, while the syllable of reduplication held its ground with the loss of its final consonant. In a way analogous to what we see in Greek and Latin, the syllable of reduplication tended to assume a uniform vowel sound. In Gothic this was *ai*, in A. S. *eo*, which often kept its place when the root-syllable underwent change. One of the most striking among the few antique forms which we have to guide us, is *on-dreord*, the old past tense of *on-drædan*. Here we see plainly enough, that *dreo-dræd* must have passed into *dreord* (with its second *r*), by the omission of the middle *d* of the word, not by dropping the syllable of reduplication.

It is obvious that the blending of two syllables into one, consequent on the modification above noticed, must have tended to produce a full and long vowel sound; and this was the actual result both in Latin and Anglo-Saxon. It is clearly wrong, therefore, to attribute the *shortening* of a long vowel sound to a formation which tends not to shorten vowels, but to lengthen them. The shortening of the vowel sound, in forms like *dealt* or *felt*, is not an essential feature of the weak formation. It is an unintended phonetic corruption, consequent upon the sharpening of the *d* of the suffix into *t*, and was not brought about immediately. *Deält* was *daelde* in A. S. and Early English. *Wêpte*, *slêpte*, &c. retained at first the long vowel of the infinitive stems in *wêpen* and *slêpen*. (See *Stratmann*). A Scotchman still says *creepit* and *keepit*, where we say *crept* and *kept*. The shortening was a later process, coming long after the tense-formation was completed. Compare forms like *dreamed* and *dreamt*, *kneeled* and *knelt*. The change is precisely the same as what occurs when we give the sounds *brest* and *breth* to what a Scotchman calls *breest* and *breeth*. Some strong preterites got shortened in the same way, as when *heeled* (still used by Chaucer) became *held*.

Contributions.

PHYSICAL EDUCATION.

BY A. H. MORRISON, GALT.

(Read before the Ontario Teachers' Association at Toronto.)

(Concluded from last month.)

Subdivisions 3 and 4 of my text treat of out-door exercise, trained exercise, and first as to gymnastics :—Running, jumping, skipping, snow-balling, lacrosse, boating, &c., &c., are all good aids to physical culture. Were all boys and girls constituted alike, and did like athletic tastes prevail the year round these means might prove sufficient wherewith to develop at least a moderately robust physique, and maintain a normal state of healthy being. Unfortunately all boys and girls are not constituted alike. We have the mercurial, all activity and vim ; the ordinary, all method and mediocrity in school and out ; the studious, all black letter and white paper ; the shy, the retiring, the melancholy, the delicate, all nervousness, diffidence, mope and biliousness. Again, sports, even healthy, boy-like and girl-like sports are mutable ; the skipping-rope has to be changed for tag, tag is eventually discarded for puss in the corner, which in turn has to succumb to the prowess of something less rompish and consequently more sedentary. There comes a time when even the vivacious bright-eyed darling of the chevy ground or the steeple-chase course, is seen suspiciously lurking in shady corners, and stooping with dubious moral intent in dark and uncanny spots, over secret and occult delvings in mother earth. The cabalistic sounds of 'knuckle down', and 'taw', and 'fudge' greet the ear of the tutorial detective on his casual beat through the haunts of the idly-busy young tenants of the play-ground. The open is deserted, every fence has its row of juvenile human wall-flowers, who blossom in groups, in lines, in couples, even in units, all intent on the same fell purpose. No longer do we see twinkling feet speeding across the green sward, leap-frog is dead, base-ball buried, and the whole family of cognate recreative pastime in deepest mourning. Hour in and hour out, the devotee of taw stands, sits, kneels, stoops, squats, now shivering, now glowing, now despondent, now jubilant, according as cold or warmth, loss or success acts upon his external frame or inner emotions. It is the marble season ; it comes as regularly as the March winds or the measles, the spring bonnets or the summer roses, and while it lasts, good-bye to healthy racing, open shouldered exercise. It is at seasons like this, and more particularly with certain classes of scholars that the need of some compulsory means of hygienic exertion is best appreciated. How many schools are there in the Province of Ontario with even the faintest elements of a gymnasium attached thereto ? Even in those which happen to be supplied with bars and poles and similar apparatus, how many scholars avail themselves of the opportunity afforded of using them in a systematic manner ? How many among their preceptors are competent to give instructions in the simplest athletic movement, or to supervise an elementary gymnastic course? It may be answered the preceptors are not engaged to instruct in physical athletics, the athletics of the brain are all they are required to supervise and direct. So much the worse for instructor and instructed. But with regard to the apparatus, could not a few bars and poles be erected and ropes suspended without entailing ruinous expense on the ratepayers in every school-yard in the Province ? Could not a few simple yet healthy movements be taught to the scholars without necessitating a very deep insight into the laws of athletics ? No matter how humble the apparatus, no matter how elementary the instructions, could not every pupil, boy and girl, be compelled, as a matter of duty, where such apparatus is provided, to perform occasional exercise during certain days of the week ?

Upon one most vital topic, in connection with gymnastics, I would like here briefly to touch. I allude to the art of swimming, or at least, to the method of preserving life while in a state of immersion, voluntary or involuntary. The blindness of humanity in some respects has become proverbial, it is amazing and utterly incomprehensible. Our nationality is threatened by exterior and inimical influences—the voice of warning goes forth, and tens of thousands of bristling bayonets line our defiant shores to resist the aggressor. A disastrous explosion occurs in a coal mine through the destructive agency of fire damp, and a Humphrey Davy at once sets his scientific genius to work to construct an instrument whose use shall tend to avert such calamities for the future. A stately man-of-war with her noble crew founders some murky night in the tempestuous waters which lash a rock-bound coast, and the inventive wits of ship-builders, engineers and philantropists are at once enlisted on the side of humanity—with what results ? Water-tight compartments, magnificent lighthouses, life-boats, floating beacons —Life-saving apparatus of every kind and degree is multiplied. News of a terrific railway accident is telegraphed through the length and breadth of a startled continent, and measures are at once adopted to moderate undue speed, check negligency of officials, repair roadways, perfect signal codes, compensate sufferers. A pleasure boat, out under a sunny sky, floating on an unruffled plane of azure, freighted with thoughtless, happy, priceless human souls, capsizes through inadvertency, neglect or over-crowding, and those souls are *hustled* into eternity. A sigh of horror is wafted to the ears of the shuddering public, which lingers for a brief instant and then dies away ere the ripples have well closed above the spot from which the poor human forms, bereft of life, have been lifted for the last time to the light of heaven ; and what measures are taken to prevent a repitition of this most awful catastrophe ? None—none that are truly effectual. Laws may become for a season stricter, vessels examined a little more closely, avaricious owners of unworthy craft forbidden under the minacious terrors of a possible penalty, thus to admit humanity by the gross into the most awful arcana of the invisible world at such a ridiculously small figure as 25 or 50 cents, or perhaps a dollar a head. Think of it—the beginning, a *cheap* holiday excursion ; the ending—200 open graves and alas ! for cheapness—the funeral expenses, and then the waste of tears and life energy and heart action ;

> "Sudden partings such as press
> The life from out young hearts and choking sighs,
> Which ne'er might be repeated."

Repeated !—What decisive and effectual step is ever taken to baffle the destroyers' death and greed, and rob them of their victims. Another bright day ; another tempting way bill ; another holiday crowd. Hoary age and russet prime, golden youth and rosy childhood step on board all flutter and excitement and high hope. How many as individuals able, if occasion requires, to strike out a limb to save themselves if suddenly immersed in the treacherous element which now woos them with its placid smile ? How many, so inured to the contact of the water that mere presence of mind will suffice, not only to prompt exertions for self-preservation, but will prove efficacious to withhold the deadly clutch which drags down a fellow being to his death, who, unencumbered, had been able to save himself and perhaps others ? It is time and high time that something were done in this matter. Why, a dog if thrown into a pond will paddle to the shore, and is a rational being less able to preserve his invaluable life than a dog ? London disasters with their manifold editions are becoming too notoriously frequent, and I repeat something should be done to compel humanity, especially young humanity, so to train itself that under exceptional circumstances, and in a foreign element, it may not hopelessly founder like a water-logged hulk within sight of the glancing sun-

light and the hills which possibly circle the home where loving hearts are anxiously awaiting the return of—what?

There is but one way to avert these terrible visitations. All the boat building and examining is futile. The remedy must be with individual self. Life-preservers cannot be forever round the necks of pleasure seekers; these must carry with them at all times, prompt on all emergencies, a trained and ready self-possession and a physique, so educated that if need be, it may, if only like the brute, be led instinctively to make an effort for the salvation of its animating spark of life, and not sink like a stone beneath the eddying waters of a despairing death.

To my next and last subdivision, No. 4, which treats of drill, I would also direct special attention, both because drill can be efficiently taught without other apparatus than the natural mechanical belongings of the human body, to wit, legs and arms, and need not necessitate a very recondite knowledge of abstruse professional technicalities. Drill is of all agents for outdoor physical instruction, the one *par excellence*, for any school of any nationality, in any climate. If there is a means of building up a man's physique more than another it is drill. If there is an artist more competent than another to put the finishing touches to that sentient statue of clay, which, rough moulded, has been handed in for completion and polish, it is the qualified drill instructor. What says La Rochefoucauld, that shrewd, calculating intellect, and master of human nature, in No. 393 of his celebrated maxims, "*L'air bourgeois se perd quelquefois dans l'armée, mais il ne se perd jamais à la cour,*" and how is this *cockney*, or if I may be allowed the enallage *slang* air lost; why by the manly, independent, morally elevating nature of the discipline which is received through the agency of this same drill instructor. In his hands, the veriest clod, the most plodding plod of the plodding sons of the ploddingest population that inhabits this round earth, the English rustic, and I their countryman say it, may be, and is frequently transformed under that magic wand the military pace-stick, to something in the shape of a human biped. Hodge, the ploughman, though he shamble like ursa major, or shuffle like a seal with the elephantiasis, may be taught to stand erect, be led by the loving voice and gentle hand of martial authority—supplemented, if need be, by the salutary dread of a *tete-a-tete* with an offended and avenging adjutant—to contemplate loftier objects than the toes of his high-lows. The magnetic affinity which is oft times observed to exist between his fraternally inclined knee joints may be overcome by the force of moral regimental suasion, and the clod-pole, who, upon his first appearance on the parade ground in all the panoply of warlike vestments, might not inaptly have been taken for a human embodiment of the old time fable reversed, viz: a sheep in wolf's clothing trussed for the slaughter, not of national enemies but of himself, turns out in very fact—after a reasonable interval of judicious discipline to have been intended for a man and a brother; supreme and culminating effect of modern military evolution, the Darwin of the drill ground has reclaimed and classified the wild man of the turnip fields.

In the military schools of the British army, at least while on foreign service, half an hour, usually the last half hour of the school-day, is, or used to be, set apart for physical exercise, under the systematic directions of the school master and his assistants, a plan, I think, which might be followed with advantage in schools which are non-military. I see no reason why boys and girls of all ages should not be drilled. Drill might be made a part of the regular school curriculum, half an hour daily, or say three times a week in fine weather, might be set apart for this exercise. It is not, be it observed, a difficult task to master the rudiments of military movements, it is far from being an unpleasant one. Healthy, manly, captivating, there is no bodily exercise, which so trains the limbs and muscles, no species of physical discipline with which is connected so salutary a morale. It is the stepping stone to military renown, the germ of national independence and self-existence, the fountain head of its prestige, and has been ere this the foundation on which has been raised the glorious structure of civil and religious liberty. "The British soldier has the swing of conquest" remarked General Grant with admiring emphasis. He has, as I before observed, the swing of the parade ground, which trained him to conquest. Without hesitation, I affirm that many of our greatest victories have been the result of an incomparable system of army discipline, many of our reverses directly traceable to a lack or relaxation of it. I do not intend to enter into any very lengthy argument here as to the advisability of this or that method of drill; any method is good. I would merely lay down, as a broad and fundamental principle, that drill including extension motions, marching, simple evolutions, &c., might be introduced into our public school system; it might be conducted under the supervision of the ordinary teacher, during a part of the ordinary school day. With the assistance of a good book, such as for instance the little manual compiled by Mr. Hughes, Inspector of Public Schools for the city of Toronto, any individual of ordinary capacity and with a will, might soon render himself competent to instruct a class of boys or girls, or both. And the results, I conscientiously believe, would soon be evident in a firmer tread, a more erect and open carriage, a bolder front, a healthier physique. Such absurd remarks as "He walks as if he owns the whole world" would cease, or at least would cease to bear an insidious meaning and all appearance of a desirability to become sole proprietor of the nether-most portion of this material universe would vanish too. It may be asked how shall we find time for this innovation? We have already a full programme. Admittedly so, by far too full. So full that the fragile craft of elementary instruction, is already settling under the freightage. Oust, I unhesitatingly say, one of our half-hour subjects. Renounce for thirty minutes *per diem* whitewashed walls and philosophic speculations and devote them to the light of heaven and physical development, throw *ologies* and *onomys* to the winds, let the laws of natural philosophy at this stage give place to the laws of natural healthy action and growth. We have too much cram and too little digestion, our entrées are too numerous, but where is the *pièce de resistance?* Are stultified intellects and unhealthy frames any compensations for a smattering knowledge of geometric deduction, or a bowing acquaintanceship with the signs of the zodiac? Subject is crowded upon subject, algebra follows arithmetic, geometry runs a muck with algebra, mensuration handicaps geometry, and so on, *ad infinitum*, till bewildered childhood wonders with the English charity boy, who it appears found some difficulty with the alphabet, whether it is worth while going through so much to gain so little. Give our pupils a taste for sensible reading, a taste for virtuous enjoyments, a taste for physical culture, and we may not indeed have manufactured a perfect humanity in embryo, but we shall at least have put a good many of our fellow mortals on the right track to become enlightened, healthy, and happy members of society. Do not misapprehend me, I do not undervalue mathematics; far from it, but for childhood I value language more. Is it not a pity to see a young man, or young women able to solve an equation and unable to speak grammatically, to read fluently, or to compose correctly? I, like Oliver Wendell Holmes, have an immense respect for a man of talents, *plus* the mathematics. Shakespeare and Milton are great, but honor be to Newton and to Herschel. I speak only according to my convictions when I say that to language should be accorded the first place in primary education, and in an elementary school there are many things of more value to the ordinary scholar than mere mathematical formulæ, for why? The average pupil *must* talk and read to the end of time, but how many require Euclid or algebra in after life? There is an eternal fitness of things, and in a country like Canada to stuff an ordinary girl's head with mathematics when she cannot by any written or unwritten formulæ, whatsoever make her own garments; or initate her into the mysteries of the corn laws, when she cannot so much as bake a loaf of bread, is I deem an eternal unfitness, 'tis "wasteful and ridiculous excess" indeed. Teach her how to stand, to sit, and to walk like a rational human being with an immortal soul, to talk without murdering the Queen's English or vilifying her next door neighbour; to read fluently and intelligently our best English Classics, to total up correctly an ordinary market account, to demean herself gracefully and modestly before all men, to fit herself for the highest duties of life which the Almighty has designed erring humanity to perform as loving daughter, as tender sister, as devoted wife, as "ministering angel," woman! We shall have better maidens, better matrons, and if need be better heroines. I am aware that I am treading on dangerous ground. There is at present a strong advocacy for higher female education, I say nothing against it, for a certain class. Let those who can afford time and money—the latter always an essential be it borne in mind—obtain the highest education that money can procure or time admit of, and God prosper them. I advocate the cause of those who can never reach a high education, whose paths lie apart from the din of the great world. I speak not on behalf of the favored few, but of the lowly many who will not, cannot hope to attain to anything beyond a Public School education. We, the educators of such have a sacred duty to perform. The many and the lowly are *our* clients, and how shall we, their advocates, account to our consciences in the silence and the gathering gloom of the twilight, if under the noon-day sun we neglect our noblest, our holiest trust, and apathetically or ignobly refuse to lift up our voice in earnest, heart-felt pleadings on their behalf.

Examination Questions.

JULY EXAMINATIONS, 1881.

FIRST CLASS TEACHERS.—Grade C.

(Continued from last month.)

GEOGRAPHY.

Time—Two Hours.

Examiner—S. Arthur Marling, M.A.

1. Sketch an outline map of the Mediterranean Sea, marking the countries and chief cities upon its shores, and the principal rivers which flow into it.

2. Write explanatory notes on the following points connected with the Mediterranean Sea :

a. Its temperature and saltness as compared with the Atlantic.

b. The continuous flow of water into it from the Atlantic.

c. Its influence on civilization.

3. Name and describe the physical features of the Spanish Peninsula.

4. Enumerate the British possessions in India and Australasia ; state the form of government, chief cities and productions of each.

5. Trace the Mississippi, Rhine and Elbe, from source to mouth, naming the chief towns on their banks.

6. Describe the position of Avignon, Varna, Belgrade, Lutzen, Sadowa, Granada, Antwerp, Leipsic, Rhodes ; and mention any historical events connected with them.

7. Name the principal rivers of Ontario, and the counties and towns through which they pass.

ENGLISH GRAMMAR.

Time—Three Hours.

Examiner—J. M. Buchan, M.A.

1. *Cor.* Shall remain !—
Hear you this Triton of the minnows ? mark you
His absolute *shall ?*
Com. 'Twas from the cannon.
Cor. *Shall !* 5
O good, but most unwise patricians, why,
You grave, but reckless, senators, have you thus
Given Hydra here to choose an officer,
That with his peremptory *shall*, being but
The horn and noise o' the monsters, wants not spirit 10
To say he'll turn your current in a ditch,
And make your channel his ? If he have power,
Then vail your ignorance : if none, awake
Your dangerous lenity. If you are learned,
Be not as common fools ; if you are not, 15
Let them have cushions by you. You are plebeians,
If they be senators ; and they are no less,
When, both your voices blended, the greatest taste
Most palates theirs. They choose their magistrate ;
And such a one as he, who puts his *shall*, 20
His popular *shall*, against a graver bench
Than ever frown'd in Greece ! By Jove himself,
It makes the consuls base ! and my soul aches
To know, when two authorities are up,
Neither supreme, how soon confusion 25
May enter 'twixt the gap of both, and take
The one by the other. —*Coriolanus, Act iii. Scene 1.*

(*i.*) Parse *Hydra here to choose*, l. 8 ; *with, being but*, l. 9 ; *horn*, l. 10 ; *to say*, l. 11 ; *channel his*, l. 12 ; *voices, taste*, l. 18 ; *theirs*, l. 19 ; *By*, l. 22 ; *It*, l. 23 ; *To know*, l. 24 ; *Neither*, l. 25.

(*ii.*) Analyze fully from "They choose their magistrate," l. 19, to Greece, l. 22.

(*iii.*) Explain the force of *with*, l. 9.

(*iv.*) *He'll turn your current in a ditch, And make your channel his*, ll. 11 and 12. Between whom is a comparison made in these words ?

(*v.*) Scan ll. 7 and 10.

(*vi.*) Derive *absolute, officer, spirit, current, power, neither, betwixt, other, then, than, when, such.*

2. Distinguish, according to Mason, between verbs of complete, and verbs of incomplete predication. Criticise his views on this subject.

3. Give a full account of the function of words ending in *ing*.

4. Distinguish the different sounds represented by the letter *e* in the English language, exemplifying each by giving at least three words in which it occurs.

5. Correct the following selections :—

"Some teach the alphabet at the first before teaching the pupils to read. By doing this it makes the pupil dull as it will take considerable in teaching them representatives of something they know nothing of, whereas if the word is taken as a whole being a representative of something that pupils are familiar with for instance if the pupil is told that OX stands for ox, they will quite easily remember this for they are quite familiar with the animal called "ox" and this is represented by the word "ox."

"When the child starts first to read he ought not to be taught that OX is *ox* because the letters OX spell ox he will learn the spelling accidentally with the reading ; but he ought to have a picture of an ox shown him and then told that the word 'ox' is ox, he will remember this like he does the picture, because it is but a picture of a word."

"This method I consider a very poor one as a child knows a great many words before it comes to school and wants to be taught the formation of these word , that is going so far from the known to the unknown and then breaking up of the word into its parts is again a second step from the known to the unknown, while the method stated is beginning with an unknown leading them in the dark to, perhaps, a known, or perhaps an unknown.

6. "In this point charge him home, that he effects
Tyrannical power. If he evade us there,
Enforce him with his envy to the people
And that the spoil got from the Antiates,
Was ne'er distributed."

(*i.*) Analyze fully.

(*ii.*) Parse 'home.'

7. Accentuate *exorcist, clematis.*

COMPOSITION.

Time—One Hour.

Examiner.—John Watson, M.A., LL.D.

Give the sense of *either* of these passages in your own words, using the simplest English you can find, and giving the perference to short sentences :—

(1) "Reader, the Ages differ greatly, even infinitely, from one another. Considerable tracts of Ages there have been, by far the majority indeed, wherein the men, unfortunate mortals, were a set of mimetic creatures rather than men ; without heart-insight as to this Universe, and its Heights and Abysses ; without the conviction or belief of their own regarding it at all ; who walked merely by hearsays, traditionary cants, black and white surplices, and inane confusions ; —whose whole Existence accordingly was a grievance ; nothing *original* in it, nothing genuine or sincere but this only, Their greediness of appetite and their faculty of digestion. Such unhappy Ages, too numerous here below, the Genius of Mankind indignantly seizes, as disgraceful to the Family, and with Rhadamanthine ruthlessness—annihilates ; tumbles large masses of them swiftly into Eternal Night. These are the unheroic Ages ; which cannot serve on the general field of Existence, except as *dust*, as inorganic manure. The memory of such Ages fades away for ever out of the minds of all men. Why should any memory of *them* continue ? The fashion of them has passed away ; and as for geninue substance, they never had any. To no heart of a man any more can these Ages become lovely. What melodious living heart will search into *their* records, will sing of them, or celebrate them ? Even torpid Dryasdust is forced to give over at last, all creatures declining to hear him on that subject ; whereupon ensues composure and silence, and Oblivion has her own."—*Carlyle's Cromwell, Indroduction, chap. V., p. 71.*

(2) Upon the whole, men do not hitherto appear to be happily inclined and fitted for the sciences, either by their own industry, or the authority of others, especially as there is little dependence to be had upon the common demonstrations and experiments ; whilst the structure of the universe renders it a labyrinth to the understanding ; where the paths are not only everywhere doubtful, but the apperance of things and their signs deceitful ; and the wreaths and knots of nature intricately turned and twisted ; through all which we are only to be conducted by the uncertain light of the senses, that some-

times shines, and sometimes hides its head; and by collections of experiments and particular facts, in which no guide can be trusted as wanting direction themselves, and adding to the errors of the rest. In this melancholy state of things, one might be apt to despair both of the understanding left to itself, and all fortuitous helps; as of a state irremediable by the utmost efforts of the human genius, or the often-repeated chance of trial. The only clue and method is to begin all anew, and direct our steps in a certain order, from the very first perceptions of the senses. Yet I must not be understood to say that nothing has been done in former ages, for the ancients have shown themselves worthy of admiration in everything which concerned either wit or abstract reflection; but, as in former ages, when men at sea, directing their course solely by the observation of the stars, might coast along the shore of the continent, but could not trust themselves to the wide ocean, or discover new worlds, until the use of the compass was known: even so the present discoveries referring to matters immediately under the jurisdiction of the senses, are such as might easily result from inexperience and discussion; but before we can enter the remote and hidden parts of nature, it is requisite that a better and more perfect application of the human mind should be introduced. This, however, is not to be understood as if nothing had been effected by the immense labours of so many passed ages; as the ancients have performed surprisingly in subjects that require abstract meditation, and force of genius. But as navigation was imperfect before the use of the compass so will many secrets of nature and art remain undiscovered without a more perfect knowledge of the understanding, its uses, and ways of working.—*Bacon's Great Instauration, Preface.*

FIRST CLASS TEACHERS—GRADES A AND B.

ALGEBRA.

TIME—TWO HOURS AND A HALF.

Examiner—ALFRED BAKER, M.A.

1. If $f(x)$ be divided by $x-a$, and the integral quotient by $x-b$, and the second quotient by $x-c$, the remainder will be

$$-\frac{(b-c)f(a)+(c-a)f(b)+(a-b)f(c)}{(b-c)(c-a)(a-b)}$$

Give the general theorem in the case of any number of divisors.

2. There are two sets of articles, each containing n articles, all different. Combinations are formed by taking none out of the first and any r out of the second, any one out of the first with any $r-1$ out of the second, any two out of the first with any $r-2$ out of the second, &c., any r out of the first with none out of the second. Obtain an expression for the total number of combinations so formed.

3. Solve the cubic equation $x^3-px+q=0$, writing down all the roots.

4. If a, b, c be the roots of $x^3-px^2+qx-r=0$, form the equation whose roots are

$$\frac{1}{a}\left(\frac{1}{b}+\frac{1}{c}\right),\ \frac{1}{b}\left(\frac{1}{c}+\frac{1}{a}\right),\ \frac{1}{c}\left(\frac{1}{a}+\frac{1}{b}\right).$$

Also that whose roots are $\frac{ab}{a+b}$, $\frac{bc}{b+c}$, $\frac{ca}{c+a}$.

5. (1). Find the general solution in positive integers of $7x-8y=13$.

(2). What is the least sum of money less than £2 10s. that can be paid in the greatest number of ways in half-crowns and shillings, these conditions being exacted in the order—1st, that the number of solutions shall be as great as possible; 2nd, that the sum of money shall be as small as possible, zero solutions being counted?

6. If $\frac{x^2+2x}{(x-1)^2(x-2)}$ be expanded in ascending powers of x, what is the coefficient of x^n, and the sum of the first n terms.

Find the greatest value of x with which the expansion will be arithmetically true.

7. Sum to n terms the series

(1.) $1.2+2.3+3.4+\ldots\ldots$

(2.) $\frac{1}{1.3.5}+\frac{1}{3.5.7}+\frac{1}{5.7.9}+\ldots\ldots\ldots$

8. The arithmetic mean of any number of positive quantities is greater than the geometric mean.

Shew that $\frac{1}{3}(n+1)(n+2)>\{(n+1)(\lfloor n)^2\}^{\frac{1}{n}}$.

9. Examine the convergency or divergency of the series

(1.) $\frac{1}{1^p}+\frac{1}{2^p}+\frac{1}{3^p}+\ldots\ldots$

(2.) $\frac{1}{1^p+1}+\frac{2}{2^p+1}+\frac{3}{3^p+1}+\ldots\ldots\ldots$

10. (1). Every convergent is nearer to the continued fraction than any of the preceeding convergents.

(2). Express the development of $(1+x)^n$ as a continued fraction.

TRIGONOMETRY.

TIME—TWO HOURS AND A HALF.

Examiner—ALFRED BAKER, M.A.

1. Prove that

$$\log_b a \,.\, \log_c b \,.\, \log_d c \ldots \log_a m=1;$$

also $\log_b N=\frac{\log_a N}{\log_a b}$.

What use is made of the latter?

2. Shew that whatever be the magnitude of θ, $\sin(-\theta)=-\sin\theta$, and $\cos(90°-\theta)=\sin\theta$.

3. Explain the circular measurement of angles.

Shew that limit, $\theta=0$, of $\frac{\sin\theta}{\theta}$ is 1. What is the limit if θ be expressed in minutes?

4. Find a general expression for all angles the sides of which have the same given value.

Find the general value of θ in the equations

(1). $\sin 5\theta+\sin\theta=0$.

(2). $2\sin 3\theta+\cos 2\theta=1$.

5. From a figure find $\tan(A+B)$ in terms of $\tan A$ and $\tan B$. Deduce $\sin(A+B)$, $\cos(A+B)$.

6. (1). In any triangle shew that $\tan A+\tan B+\tan C=\tan A\tan B\tan C$.

(2). If A', B', C' be the angles subtended at the centre of the inscribed circle of a triangle by its sides a, b, c, then

$$\cot\frac{A}{2}+\cot\frac{B}{2}+\cot\frac{C}{2}+\tan A'\tan B'\tan C'=0.$$

7. Given the angles of a triangle and the sum of the sides, shew that for the solution of a triangle we have the formulas

$$a=\frac{(a+b+c)\sin\frac{A}{2}}{4\cos\frac{B}{2}\cos\frac{C}{2}},\text{ \&c.}$$

8. If AD, BE be drawn bisecting the angles at A and B of a triangle ABC, and meeting the opposite sides in D and E, then r_1, r_2 being the radii of circles inscribed in the triangles ABD, ABE

$$\frac{1}{r_2}-\frac{1}{r_1}=\frac{1}{S}\left\{a\cos\frac{B}{2}-b\cos\frac{A}{2}\right\},$$

S being the area of ABC.

9. Shew that the height of an inaccessible object C, vertically above O, is determined by finding its angle of elevation at A, its angle of elevation at B (AB being perpendicular to AO), and by measuring the distance AB, the points A, B, O being in a horizontal plane; and give an expression for the height OC in terms of the quantities so determined.

10. Assuming De Moivre's Theorem in the case of a positive integer, establish it when the index is negative and fractional.

Utilize the theorem to find the values of x which satisfy the equation

$$x^n+1=0.$$

PROBLEMS.

TIME—THREE HOURS.

Examiners—{ ALFRED BAKER, M.A. / J. C. GLASHAN,

1. O is the centre of a circle, and Q another point in the diameter which meets the circle in A. B is any point on the circle, and C a point between O, Q, such that $\sin QBO : \sin CBQ=p$, a constant; also $AQ=AO(p+1)$. Shew that as B assumes different positions on the circle, the position of C is unchanged.

2. Shew how to draw through two given points on the circumference of a circle, two parrallel chords such that the rectangle under the chords shall be (when possible) of given magnitude.

3. The square is greater than any rectangle inscribed in the same circle.

4. Four equal spheres of radius a are just contained in another

sphere, their centres forming a square; find the radius of the containing sphere.

5. Shew that

$$(1).\quad n^n-(n+1)(1n-1)^n+\frac{(n+1)n}{\lfloor 2}(n-2)^n-\ldots\ldots=1$$

$$(2).\quad 1+\frac{2}{9}+\frac{2.8}{9.18}+\frac{2.8.14}{9.18.27}+\ldots\ldots \text{ ad inf.}=\sqrt[3]{3}.$$

6. A and B are two rough pegs. A uniform rod CD, whose centre of gravity is G, passes over A and under B, and is just kept from sliding by the friction between the pegs and rod. If μ be the coefficient of friction, and α the inclination of AB to the horizontal, express the ratio of GA to GB.

7. P is any point on an ellipse whose centre is O, and through A, the extremity of the axis major, a line AMN is drawn parallel to OP, cutting the curve in M and the axis minor in N; shew that $OP^2=\frac{1}{2}AM.AN$.

8. The area of the parallelogram formed by the tangents at the ends of any pair of diameters of a central conic varies inversely as the area of the parallelogram formed by joining the points of contact.

9. The bisectors of the angles between the lines

$$ax^2+by^2+cxy=0, \text{ are } c(x^2-y^2)-2(a-b)xy=0,$$

the axes being rectangular.

10. The circles obtained by varying k only in the equation

$$x^2+y^2+k(ax+by)-(a^2+b^2)c(k+c)=0,$$

all touch each other at the same point.

11. Divide an inclined plane into n parts, such that the time of descent down each of a particle starting from rest at the top may be equal.

12. When a projectile is moving *in vacuo*, if the velocity, when at the highest point, be changed so that it bears to the old velocity the ratio $\tan\alpha : 1$, where α is the angle of projection, the focus of the new path will be in the horizontal plane through the point of projection.

13. A heavy elastic particle slides down a smooth inclined plane of given length and height, and on reaching the bottom rebounds from a hard horizontal plane. If the length of the plane be constant, determine its height that the range of the particle on the horizontal plane may be the greatest possible.

Selections.

THE NEW EDUCATION.

BY PROFESSOR MEIKLEJOHN, ST. ANDREWS, SCOTLAND.

I.

Mr. James Boswell was in the habit of starting intellectual game for his great guide, philosopher, and friend—Dr. Johnson—to run down: of asking all kinds of questions on things in heaven and things on earth; of proposing all kinds of problems, both possible and impossible. Perhaps one of the most remarkable questions he ever started—one of the most difficult problems he ever proposed—was one which relates to the bringing up of a new-born baby. Boswell, a man not without insight, and with a firm belief in the far-seeingness of his oracle, gives us the following:—"I know not how so whimsical a thought came into my mind, but I asked, 'If, Sir, you were shut up in a castle, and a new-born child with you, what would you do?' Johnson: 'Why, Sir, I should not much like my company.' Boswell: 'But would you take the trouble of rearing it?' He seemed, as may well be supposed, unwilling to pursue the subject; but, upon my persevering in my question, replied, 'Why, yes, Sir, I would; but I must have all conveniences. If I had no garden, I would make a shed on the roof, and take it there for fresh air. I should feed it, and wash it much, and with warm water to please it—not with cold water to give it pain.' Boswell: 'But, Sir, does not heat relax?' Johnson: 'Sir, you are not to imagine the water is to be very hot. I would not CODDLE the child. No, Sir, the hardy method of treating children does no good, I'll take you five children from London who shall cuff five Highland children. Sir, a man bred in London will carry a burden, or run, or wrestle, as well as a man brought up in the hardiest manner in the country.' Boswell: 'Good living, I suppose, makes the Londoners strong.' Johnson: 'Why, Sir, I don't know that it does. Our charmen from Ireland, who are as strong men as any, have been brought up upon potatoes. Quantity makes up for quality,' Boswell: 'Would you teach this child that I have furnished you with anything? Johnson: 'No, I should not be apt to teach it.' Boswell: 'Would you not have a pleasure in teaching it?' Johnson: 'No, Sir, I would NOT have a pleasure in teaching it.' Boswell: 'Have you not a pelasure in teaching men? THERE, I have you. You have the same pleasure in teaching men that I should have in teaching children.' Johnson: 'Why, something about that.'"

Now, the difficulty in which Dr. Johnson found himself, is th standing difficulty of the English nation. In spite of all that ha been spoken and written about it, we do not yet know how to educate young children; and the problem increases in difficulty as we go backwards towards the beginning of life. How to train a child to healthy activity, to self-help, to a harmonious development of its powers of body and mind—is still a problem which waits for solution. A solution—or even the materials for a solution—we shall welcome from anywhere. An attempt at a solution comes to us from Germany; it has made many disciples and warm adherents in Germany, England, France, and the United States; and has been so much of a revelation to many of its disciples that they have given to it the name or the NEW EDUCATION. Englishmen need not find fault with the term *new*. Civilization has had to fight for thousands of years for its very existence. It had to learn the arts of agriculture, of war, of law, and of medicine before it could give some of its hard-earned leisure to the work of training up its young children. It is only from 1870 that the work of instruction has begun to take a national shape. Besides, many of the very oldest things England has are called *new*. There is the oldest forest in the country—the *New* Forest; there is *New College*—one of the oldest colleges in Oxford; and the oldest fifty streets in London are called *New Street*. The point about our education is not as to whether it may or may not rightly be called *new*, but as to the solidity of its foundation. Does it dig down deep enough in human nature, and is it based on the solid rock of eternal truth?

Froebel, a thoughtful and slow-meditating German, is the founder of this new education. Let us see how he faced the problem, and how he tried to find an answer for it. He saw the child come into life. When he begins to be able to run about, not much attention is paid to him, and he is left pretty much to himself. He gets into what is called mischief; and then he is checked. He is hardly guided into the right way at all; and, as dirt is only matter in the wrong place, so his mischief is only activity invested in the wrong objects.—If he is the child of rich parents, he is overwhelmed with cartloads of toys; and the only activity which they call forth, or can call forth, in him, is the activity of breaking them up as rapidly as possible. Then he wants more, and he gets them. Thus there is implanted in his mind a desire for immediate pleasure, which must be gratified at any cost; but no true power of his own has been called into pleasurable activity. If he is the child of poor parents, he is much more fortunate, for then he is very soon set to work to *do* something, and he finds himself a useful and important member of the body corporate called the family. If he lives in the country he forms an acquaintance with trees and plants, with birds and beasts; and his eyes and soul have some chance of opening. But there are no natural joinings on to his school-life, which is soon to come; his days are joined each to each by the "natural impiety" of association with—it may be the rougher—among his school-fellows; his school-days are an artificial intercalation between his infancy and

his manhood ; and no one can say that the best has been done for him, or has been made of him. His parents do not know what is going on in his mind ; and, for all they cay tell, he may turn out well, or he may turn out very ill. Now, Froebel asked himself the question, "What are the living powers--what are the germ-points which exist in the minds of children, and how can I provide for them a soil and a sunshine which shall give them opportunities of kindly growth ?

"There is external nature, and the infinite varieties of life, form, colour, motion, change and growth. There is human society—a higher kind of nature, but still a nature—with its various kinds of pleasures and pursuits, some healthy and beneficial, others deadly and pernicious. How shall I so train him—first to action, then to knowledge, and then to religion—that he shall eagerly and joyfully seize the good, and shun what is hurtful to the growth of his soul and body ?"

Froebel spent his life in feeling and groping after answers to thees questions. He did not rashly take up with some clever *fad*—with some ingenious nostrum—and then sing the praises of that as the help and cure for all the ills in our world of education. "Empiric physicians," says Lord Bacon, "commonly have a few pleasing receipts, whereupon they are confident and adventurous ; but they know neither the causes of the diseases, nor the constituents of patients, nor the true method of cures." But Froebel was determined to know the causes of things, to understand the nature of children, and to find out what remedies could be found for the great deficiencies in early education.

To understand what the nature of his own experience was, let us take a glance at his life and the nature of his own education.

(To be continued.)

LANGUAGE TEACHING.

BY J. B. M'CHESNEY, PRINCIPAL, OAKLAND HIGH SCHOOL.

There is no branch of study pursued in our schools in which there is a greater discrepancy between the labor performed by both teachers and pupils, and the results obtained than there is in English Grammar. Insufficient and unsatisfactory results are probably approximated more nearly in reading than in any other study ; but, taking everything into consideration, the toil and worry of years over abstract terms, unmeaning definitions, and unintelligible rules of syntax connected with the study of grammar, find no counterpart in the whole range of school-room work. The evidences of the truth of this statement are so numerous, and they thrust themselves so obtrusively upon us from all sides, that every person who has taken pains to investigate the subject must be convinced of its accuracy. Why is this ? Other branches of study are pursued satisfactorily and why should not English Grammar be ? There can be no reason why it should stand as an exception.

The child studies arithmetic, and each day shows an advance. Slowly but surely the different topics are taken up and mastered, so that, after a given time, a fair examination will show that what has been carefully studied has been successfully acquired. From a condition of ignorance of the simplest arithmetical operations, the pupil has systematically passed over and mastered the successive steps of the science until he can perform readily the ordinary operations which occur in business transactions. In short there has been a change from ignorance to knowledge ; the object for which the pupil laboured has been secured. It is the same with the study of geography. The object of the pupil is to become acquainted with the more prominent natural divisions of land and water, the location of important cities and countries, the activities of the various nations that inhabit the globe, and, in brief, the leading facts which combined, constitute geography. Gradually as months pass by this object is attained, varying in extent with the skill of the teacher and the aptitude of the learner ; at any rate there is a marked advance from complete ignorance of all geographical knowledge to intelligence of the same In like manner I might mention history, physiology, or any branch of study introduced into the curriculum of our schools except English grammar. Unfortunately, this study, which all will readily admit as being of equal, if not of superior importance, does not meet with the same success. The schoolboy studies arithmetic, and in time is able to calculate interest, make out bills, and solve problems of considerable intricacy ; he studies history and is able to give a synopsis of the American War, the causes which led to the War of Independence, or account in an intelligent manner for the rise and progress of the arts and sciences in our country, thus showing that he has accomplished what he set out to do ; he studies English grammar and what is the result ? Can he speak the language with greater accuracy or write it with more facility by reason of this study than he could before he commenced it ? I think the answer to this question will be almost unanimously in the negative by experienced teachers. But the object of the study is given at the commencement of all the text-books on the subject, and the pupil is required to commit it to memory in substiantally the following words : "English grammar teaches how to speak and write the English language correctly."

Experience has proven that these results are not obtained, hence the conclusion necessarily follows that there is a radical defect somewhere. Every teacher who honors his profession should endeavour to discover where this defect lies, and having found it apply the proper remedy.

The wonder is that in this age of boasted intelligence, when such rapid strides have been made in the various arts and sciences, when some of the most learned and philosophical minds of the age have been devoted to the preparation of books for the education of the young, that a subject of so vital importance as the correct and ready use of our mother tongue, should have received so little attention, or that the thought and labour given to it should have been so barren of results. Is it because the idea has prevailed that every child must learn to talk whether he will or no, if not with absolute precision, still with sufficient accuracy to meet the demands of ordinary social and business life, and that writing is a gift, and if one is not "to the manor born" it is perfectly useless to ever endeavour to do more than write a social or business letter ?

However it is not my purpose at the present time to account for the existence of this state of affairs, but simply to call attention to the lamentable fact and if possible suggest a remedy. It would seem that the same success should attend this branch of school work that does any other, provided as sensible means be made use of to secure it. If a teacher wishes a class of pupils to operate correctly in the fundamental rules of arithmetic, he requires them to perform hundreds of examples. They must repeat operations over and over again for months, and even years, before they can be sure of entire accuracy.

What would be thought of a teacher who attempted to teach penmanship by insisting upon the memorizing of rules pertaining to the correct formation of elements and principles, with an exercise in writing once a month, or possible once a fortnight ? Or how long would it take a young man to learn the carpenter's trade, if his master should require him to occupy his time in committing to memory the names of the different tools or the directions for guiding the saw or plane ? Imagine the ridiculous farce of a person spending a year or two in memorizing the names of the various appliances used by any mechanic, together with directions for their use, and then after

he has passed a careful examination on it all, pronounce him a skilled workman ! How absurd ! you say, but virtually this process has been in operation for years, and is still practised throughout the length and breadth of our land in teaching the art of using the English language.

There is a science of penmanship, but it does not follow that if a person has a complete knowledge of it he is skilled in the art of writing ; also there is a science of carpentry, but its knowledge does not carry with it skill in handling tools ; similarly there is a science of language, and because a person is thoroughly familiar with its details, it is by no means a guarantee that he is ready in the art of expressing thought either verbally or in writing. Here in my opinion is where the mistake has been made. Teachers have required pupils to memorize definitions, technical terms, verb-forms, rules of syntax, to parse words, and to analyze sentences, and when all this could be done with a tolerable degree of readiness and accuracy, pass them off as able to speak and write the English language correctly.

If it is desirable for the pupils in our schools to learn to use our mother tongue with accuracy, why not adopt in their instruction a more natural and direct method. The arithmetician has learned to add numbers correctly by adding them, the penman to write by writing, and the mechanic has learned how to handle tools skilfully by using them. By no other method can skill in these several operations be acquired, and it is equally true that if the youth of our land are ever taught to speak correctly, and to write fluently, it will be accomplished by constant drill in speaking and writing. Some may say that no one pretends to teach or can teach without requiring his pupils to use language daily, nay, hourly. True, but the language they use is not their own, except to a very limited extent. As soon as they are required to cut loose from the expressions found in their books and frame sentences of their own, the results are so wretched and unsatisfactory, that some teachers give up in despair, and are best satisfied when Mary and John adhere strictly to their text-book.

We need a complete divorce in our language lessons from all rules and definitions in the primary grades and the lower classes of the grammar schools, and the substitution of a carefully-prepared, systematic course of instruction in talking and writing. These should be commenced with the advent of the child into the school-room, and be continued daily, until he finds no difficulty in covering a fool's-cap with original thoughts, grammatically expressed, upon some familiar topic, than he would in solving a simple problem in interest. He should not only be able to write this fluently, but also be able to stand at his desk and talk easily and correctly in connected discourse for five, ten, or fifteen minutes. The benefit which a pupil would derive from an ability to do this cannot be over-estimated. It would be of immense benefit to him in every department of his school work, and, after his school days are over, and he becomes an active member of society, and a participant in public affairs, the very fact of his being a person of ideas coupled with a graceful and easy way of expressing them, would cause him to be a man of influence and a leader.

That a course of language lessons can be arranged, by means of which these highly desirable results can be obtained by the ordinarily intelligent pupil, trained by such teachers as the times demand, I have not the slightest doubt. At any rate, the system which has been followed for so many years has been productive of so little good, and the results which should be accomplished are so valuable and momentous, that we as teachers should make a persistent effort to abolish for ever this dead semblance of language teaching, and substitute for it a living reality.

STAND FIRM.

Teachers, like preachers, are too sensitive. If Huxley or Tyndall squint towards religion, theologians fairly bristle. If a supposed enemy or ignorant friend comments adversely on the public schools, educators get the tremors. Seeing this, literary hacks, who are paid by the column for their dirt, do not fail to make the best of the opportunity thus afforded for a sensation. Having discoverd "game" in the "school question" they proceed to "work it up" with a zeal characteristic of such persons.

While educators, much to the disgust of sensible people and to the amusement of the Bohemians, doubtless, have been driven into an attitude of chronic defence, too many of the educational journals are with servile hats, bowing apologies and putting sniffling I-didn't mean-tos and we-won't-do-so-agains into dignified editorials. All of which we look upon as not only unfortunate for the cause, but belittling to the profession.

There is no practice of teachers so humiliating as that of seeking wisdom from every garrulous interloper upon their proceedings. and paying humble respect to every narrow-minded old-fogy that is mean enough to abuse them.

The public schools need no defence. Where they are right, let us say so. Where they are wrong, let us say so. To claim they are perfect is folly. To assert they are uttterly bad is worse than folly. To admit they have faults is good sense. To right them where they are wrong, is what every teacher is eager, even anxious to do—as every sensible person knows.

Three principal charges are made against the schools : They are too mechanical ; they are too expensive ; they unfit youth for practical life.

To the first we have to say : It is true. No one knows it better than teachers themselves. But the fault is not in the schools or in the system. It is in the teachers. System is necessary, inevitable ; poor teachers are not. The better the system the better the teachers required to work it. The best system will soonest dominate a weak teacher. A strong teacher alone can resist and dominate a vigorous system. This is just as true of superintendents as of subordinates. School boards are disposed to think that a good system can be run by cheap teachers, whereas the better the system, the greater the injury it will effect with poor teachers. The remedy for all this is better teachers. Better teachers will come with better pay. Teaching brains cost money, just as any other brains.

Ergo, dear public, stop whining, put your hands into your pockets, and produce that which, and which alone, as you well know, will cure the evil. Pay good prices and your schools will be good. Pay for brains, too. Do not pay high prices for bricks, and then try to economize on brains, as you are now doing.

The schools are too mechanical, we admit. They are so because they are cheap. They are cheap because the public so wills. The truth of the charge is not denied. The responsibility for it though we, as teachers, respectfully decline to assume, and therefore we do not defend or excuse,—on the other hand we accuse you, dear public, and claim that you are the offenders and we are the sufferers.

Another matter in this connection. The school system will be bad as long as school boards make the schools a species of almshouses where unfortunate widows and needy relations are maintained at public expense. When it is remembered how many incompetent but needy teachers are annually elected by hearts instead of heads, it will not be at all surprising that the schools are mechanical. Now, honor bright, dear public, is it quite just to blame teachers and systems for this weakness ? You are the guilty party. You elect your school boards—teachers do not. You encourage them in this favoritism and eleemosynary weakness. Every superintendent in the land would cut it out as fatal a gangrene. You are the culprit, your teachers and your schools the sufferers. But instead of manfully acknowledging it, you try to cloak your guilt by sneaking into the papers and raising a stop-thief cry of abuse of the schools. Think you that we will gratify you by defending ourselves against your insults ? We make not a single excuse, we accuse. The schools are not to blame, the teachers are not to blame. The sin is upon an indifferent, lazy, fault-finding, corrupt public. We fling your charges back upon you, dear accusers.

Again, it is said the schools are too expensive. We deny it, point blank ; and charge back upon you, dear public, that you are mean and parsimonious in the payment of your teachers, and to this meanness and parsimony is mainly due the insufficiency of your schools. Every just person knows the truth of this. Compared with any other public officer, and taking into consideration the

ability and duties required, the teachers are paid disgracefully low prices. The laziest and most incompetent teacher in the schools more than earns all he is paid, as compared with the average county officer.

While there has been much spent on buildings and wasted on architectural "jobs," most of which has been since "saved" from teachers' salaries, we maintain that too much has not been spent on school buildings. A majority of the school children to-day are being taught in miserable dens compared with the quarters of county officers, and of criminals, paupers, the insane and idiots. Why these classes are entitled to more elegant surroundings than the teachers and children of the best people of the land, we do not and will not understand. They are not. If court-houses are carpeted, school-houses should be. If county officers are entitled to walnut furniture, cushioned chairs and stationery free, teachers are entitled to the same. If retrenchment must be, it should be upon the thousands of state, county and township officers and offices and nameless other government expenses—not upon the schools and teachers. Ah, dear public, you claim to be so enlightened, so friendly to education and progress, yet when hard times come, you starve and grind your teachers, first and only, while other public expenses are too sacred to touch. Other officers enjoy their extravagant salaries and fat perquisites, without a murmur from you. Isn't there a shade of hypocrisy as well as injustice in this? But this is not all. You go on from hypocrisy and injustice to meaner meanness by trying to charge upon us teachers the responsibility for failure in things for the accomplishment of which you do not supply decent remuneration or necessary facilities. But this is not all. To this injury you add the insulting demand that teachers shall not only bow and scrape their acknowledgments to you for their present meagre requital, but they must beg, and cringe, and wire-work, and bribe to prevent you from robbing them of the contemptible pittance you have grudgingly allowed them from your untold abundance. We do not defend, or excuse, dear public. We accuse, nay, we denounce you, not from unworthy or spiteful motives, but because we are right and you are wrong. We are the sufferers, you the unrighteous cause of our suffering.

Again, it is said the schools unfit children for the lower walks of life, making them discontented with humble pursuits, and encouraging them to crowd the more respectable avenues of employment.

For shame, dear public, for shame! What is it, you ask? Would you have us teach your children that they are inferior, and must remain so? that they are filthy, and must be filthy still? that they are naked, and must never hope to be clad? that they are ignorant, and knowledge to their eyes, "her ample page, rich with the spoils of time," must ne'er unroll? that they are poor, and should never dream of being rich? that they are of humble rank, and should never aspire to anything higher? Have you provided us any text-books in which we can assign such lessons? Have you any history from which we can draw such sentiments? Do the lives of your great men furnish such teachings? Does your literature supply such anecdotes? Does the unparalleled growth and development of your nation point out such a moral or adorn such a tale? Again we cry out: For shame!

Consider who you are, dear public. What is your origin? Whence your rank, your power, your wealth, your intelligence? During the last century thousands of emigrants have poured in upon our shores. The majority of these were from the lower, poorer, and more ignorant classes of Europe, where, had they remained, their children would to-day have been dragging out the miserable existence their fathers escaped by emigrating. Dear public, these were your parents. You are their children. This would have been your sure fate. But how different! And why? Because of the public schools. You have become wealthy and aristocratic, and fat and fussy, and possibly envious, perhaps alarmed, lest "upstarts" shall displace your children as you did some one else's. You take on great airs about people of humble circumstances who are ambitious to reach the higher walks, and against the public schools that encourage them to it.

Because a hired girl will not be crushed by one of your snobs, finding out that she has been in the public schools, he proceeds to denounce and abuse them in a respectable monthly for unfitting girls to be servants, whereas that same snob would probably find out, by further inquiry, that his mother was once a servant, but saved him and his sisters from a similar fate by sending them to the public schools, which gave him sufficient education to vilify them in a high-toned journal for blessing others as they blessed him.

If a committee of these snobs will devise a school system to suit their purposes, that is, that will train Americans who *are down* to stay down, so that they and theirs who are *up* may stay up, we predict, that in order to use it they will have to emulate their poor ancestors in one regard, namely: They will have to emigrate. Such a system would suit aristocratic Germany or England, but America, never.

This is one charge, dear public we confess to. We assume the whole responsibility. We make it our proudest boast. We do unfit the masses for servile drudgery by trying to inspire in their every heart a noble, holy ambition to excel, to improve, to strive for the highest and best. Such teaching produces a Lincoln who, steps from his rails above an Adams.

In asking anything else of us you are traitors to every sentiment of your institutions. You shallow, shoddy public! You besotted, selfish snobs! You snappish, disappointed female politicians! You bigoted, stall-fed literary swells? Think you that teachers or the friends of the schools will waver because of your high-priced snap-judgments? They should not argue with you—they should strike you. You merit not reason but rebuff. To debate with you is toadyism, cowardice. Saying this is not mere bravado. It is justice, because you are disastrously wrong, and we are grandly right; and immense, immortal interests are at stake.—*The Normal Teacher.*

Practical Department.

WHAT ARE THE OBJECTS OF A RECITATION?

To test the pupil's preparation. A lesson that is not to be recited will not be properly prepared—probably not prepared at all. Pupils ought to be tested, first of all as to what they know about the lesson themselves. They should know that it is their duty to bring out what the lesson contains, and not to be mere receptacles for the teacher to pour into and fill up. The proof of a pupil's preparation is his ability to express clearly the ideas and facts of the lesson. The idea will be obscure and imperfect in proportion to the obscurity and incoherence of the language used in recitation. I believe there are some ideas for which we have no words, but they are not in this account. When pupils say, "I know, but I can't tell or write it," they should say "I don't know it well enough." Knowledge and its expression are so intimately united that the former does not commonly exist without the latter, and hence testing a pupil's knowledge of a lesson is the same as testing his ability to express it. In this way the recitation contributes greatly to the acquirement of a command of language, and of ease and correctness of expression.

The recitation enables the teacher to correct errors. Errors of statement, errors of fact, errors of inference, errors of language, errors of observation, and errors of preparation. Advice in the way of preparing a lesson is often a great incentive, and saves a pupil a great deal of time and worry and disgust.

Another object of the recitation is to train pupils to be self-reliant, and to be sufficiently self-confident. In most of our schools it is impossible to prevent pupils from helping each other too much in the preparation of lessons. In many classes one or two do all the thinking; the others copy. This may be detected in the recitation. Then each is to be put upon his own responsibility. The fact that each must rely upon himself in recitation checks to some extent this slavish dependence too commonly seen in our schools. Timid pupils acquire sufficient courage, and those whose tongues outstrip their judgment, learn under the fire of criticism, to be more modest.

The recitation enables the pupil to remember what he learns. It is well known to us all, that the more frequently we tell or write what we think about, the better it is retained, and unless we do repeat what we learn, we are by no means sure of it. The recitation affords a means of fixing facts and impressions, not only by this means, but by concentrating the mind upon them, discussing them, and eliciting criticism upon them.

The recitation gives the teacher an opportunity to add new matter to the text, both as to fact and illustration. This is not necessary in every case, but it is usually desirable and necessary for the teacher to make use of new illustrations at least, in the recitation. No author can *introduce*, much less elaborate, all the illustrations needed for explanation. Besides, pupils take more delight in reciting, and in all school work, if the teacher gives them something more than is contained in the book, or requests them to look up some matter on the lesson not found in the text.

It is an object of the recitation to give encouragement to pupils,

and to hold out to them proper incentives to study. It is more common for teachers to find fault with their pupils in recitation than it is for them to commend what is excellent. Why should not that which is well done be commended? Indiscriminate praise is disgusting, but properly bestowed, how good it is.

I have found it quite desirable at times to explain to pupils the purpose of study, or of certain branches of study. It is a relief to know that the toil of study is not to be fruitless, to know that the mental drudgery at the threshold of every branch of learning is not to be done for *fashion's* sake. The American question, "What's the use?" will come up, and, while pupils are not the proper judges as to the curriculum, I know by experience, that it is a relief and encouragement to *see* the use.—*Penn. School Journal.*

"TILL THE DOCTOR COMES."

By J. W. McLaughlin, M.B., L.R.C.P., L.R.C.S., Ed.

Accidents of various kinds occur almost every day, and much suffering has to be endured, and life is often sacrificed, because neither the injured one, nor his companions have any knowledge of the means to be adopted for relief. To supply this knowledge in regard to some of the common accidents, is the object of the following rules and suggestions:

The first rule, and it is an important one, applies to those who would render help. It is, *keep calm and self-possessed.* "Hasten slowly."

Bleeding and how to arrest it.

There are two simple methods of arresting bleeding—

First.—By *elevating* the wounded part. If the wound is in the head or neck put the patient in the sitting or standing posture, unless fainting come on, and then he must be put in the recumbent position. If the wound is in the foot, leg, hand, or arm, place the patient on his back, and raise the limb as high as possible above the level of the body. In many cases this plan is all that is necessary.

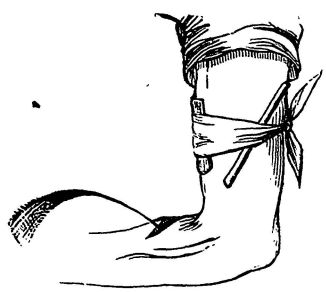


Fig. 1. Jet or spurt of blood from a wounded artery. This jet will appear once for each pulsation or beat of the heart.

Second.—By *pressure* which is intended to close the vessels, from which the blood comes. The *place*, where the pressure is to be applied, is determined by the character of the blood escaping; if it is of a dark color and flows in a steady stream, it is *venous*, and pressure should be made *upon* the wound. If it is bright-red and comes in jets or spurts, it is *arterial*, and pressure must be made *above* the wound, or between it and the heart.

There are two methods of applying pressure.

First.—The fingers or hand, or a solid pad, folded handkerchief, cap or stone, held in the hand, is pressed upon the wound or the course of the artery, with sufficient force to arrest the flow.

Second.—If a limb is wounded and the blood is venous, place a pad *upon* the wound; if arterial place it upon the *course of the artery;* then over the pad and around the limb tie a piece of rope, cord or handkerchief, and beneath this insert a piece of stick, and twist it until the bleeding ceases. (Fig. 2). If the course of the artery is unknown to the operator omit the pad, and proceed as above described without it.

Fig. 2

Should it be necessary to remove the patient to his home or a hospital, do so gently and watch the wound closely. If any oozing commences, increase the pressure. After reaching his destination, keep him quiet "Till the Doctor comes."

Fractured or Broken Bones, and what to do with them.

Symptoms.—When a bone is broken, a snap is generally felt or heard by the patient, followed by severe pain. A fractured limb is shortened and deformed, and may be moved in almost any direction, except when only one bone of a pair is broken. When moved the broken ends of the bone grate against each other. The popular belief, that there can be no fracture if the fingers or toes of the limb can be moved, is erroneous. "Till the Doctor comes" a broken bone should be kept at rest, in an easy position. But if the patient has to be moved, to be taken to a place of shelter, his home, or a hospital, it is necessary to *secure* the fragments, in order to prevent their sharp ends tearing into the flesh, or penetrating the skin, and thus adding, to the fracture, a dangerous complication.

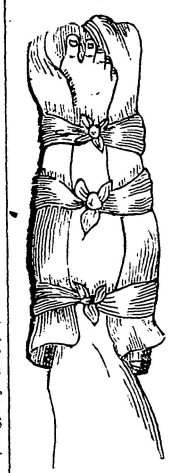


Fig. 3.

To accomplish this, one person will extend the limb until its full length is attained, and the deformity gone; another will apply temporary splints, such as splinters of wood, bark, twigs, folded coats, or vests, and tie them firmly around the limb with handkerchiefs, shoulder braces, pieces of harness, or ropes of twisted hay or straw. (Fig. 3). If the fractured limb is a leg, fasten it to the sound one, and both to a board beneath. (Fig. 4). Thus fixed, the patient may be taken to his destination, and await a surgeon's attendance.

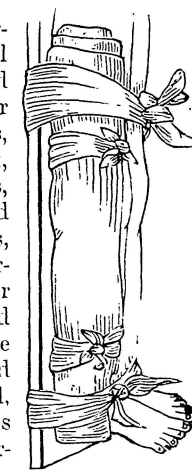


Fig. 4.

The severe pain of broken ribs may be relieved by fastening around the chest, a wide cotton or woollen roller.

Poisoned Bites.

The bites of mad dogs and poisonous snakes are generally inflicted on the limbs, and should be treated by tying a cord or handkerchief around the limb above the wound and twisting it (Fig. 2.) in order to prevent the poison entering the general circulation. The poison should be sucked out, or destroyed by applying to the wound a red-hot iron, strong nitric acid, or caustic. In the case of snake bites stimulants should be freely given.

Poisons.

As a precautionary measure, keep every bottle, box, or parcel of medicines, or chemicals, labelled and out of the reach of children. In every case in which a poisonous substance has been swallowed, induce free vomiting with the least possible delay by tickling the back of the mouth with a feather or finger, or by giving large quantities of luke-warm water, containing a couple of teaspoonfuls of mustard or common salt, and in addition use the following remedies:

Special Poisons.	Remedies.
All acids, such as sulphuric, nitric, &c.	Powdered chalk, lime water, magnesia, soap-suds.
Potash, lye, hartshorn.	Vinegar diluted with water, lemon-juice, sour cider.
Opium, laudanum, paregoric, morphia.	Prevent sleep for twelve or fourteen hours, keep the patient walking, slap the body briskly, give strong tea and coffee.

SPECIAL POISONS.	REMEDIES.
Arsenic, rat poison, paris-green, &c.	Give milk and raw eggs abundantly, lime water, or flour and water.
Bug poison, corrosive sublimate.	White of egg mixed with water frequently, and milk in the intervals.
Tobacco.	Strong tea and coffee, and hot applications to the body and limbs.

INSENSIBILITY.

Persons become giddy and and fall insensible from two directly opposite causes.

First.—A *deficiency* of blood in the brain, or fainting, indicated by death-like pallor, and a cold, clammy skin.

Treatment.—Put the person upon the back with the head as low as the body, or even lower, dash cold water in the face, and give access to plenty of fresh air.

Second.—*Excess* of blood in the brain or apoplexy. The face is livid, the eyelids puffed, the breathing difficult.

Treatment.—Loosen everything around the neck, place the person in a sitting position and apply cold to the head "Till the Doctor comes."

BURNS AND SCALDS.

These should always be regarded as very serious accidents, especially when considerable extent of surface is involved, even if the depth of the injury is but trifling.

The indications of treatment are:—

First.—*Stop the fire.* Immediately envelop the sufferer with a shawl, coat, piece of carpet, anything to exclude the air, and thus extinguish the flame. Next pour on plenty of cold water (and do the same in case of scalds), for the cinders or boiling water in the clothing may be eating into the flesh.

Second.—*Remove the clothing.* With a sharp knife or pair of scissors, cut through all the garments so that they will readily fall off the body. Never *undress* one burned or scalded, for in so doing large portions of injured skin are often removed, and in consequence, suffering is increased, and the hope of recovery dimmed.

Third.—*Put the patient into a warm bed and exclude the air from the wounds.* To exclude the air apply cotton rags or cotton wool saturated with carron oil (equal parts of linseed oil and lime water), or warm milk and water (equal parts) with a tea spoonful of baking soda to the quart, or fine flour.

Fourth.—*Give the patient no stimulant but hot coffee and milk* "Till the Doctor comes."

RECEIPT FOR MAKING COMPOSITION BLACK-BOARDS ON THE WALLS OF SCHOOL-ROOMS.—For 20 square yards of wall—take 3 pecks of mason's putty; 3 ditto of clean sand; 3 ditto of ground plaster; 3 lbs. lampblack, mixed with 3 gallons of alcohol. The alcohol and lampblack must be mixed before it is put into the plaster. Now rapidly mix the materials and put them on as hard finish is put on. A narrow trough should also be placed below the black-board to receive the chalk and wiper.

THE TONIC SOL-FA METHOD OF SINGING.

BY J. L. ROBERTSON, TORONTO.

The tones of the scale having been learned, and a readiness in producing them when taken promiscuously on the modulator, acquired, the student may proceed to deal in the same manner with those above and below it. The same relationship exists in every major scale, that is, the semitones or half tones are between **m** and **f**, **t** and **d**; the others being full tones. He need not for practice, at this stage, be particular to have an exact standard for the key-note, **doh**, as a piano or organ may not be always available. Instructions for obtaining the correct key-note are given below.

In the modulator **d, m, s**, are printed in Roman capitals, to indicate that when sounded simultaneously they produce the harmony of the *strong* chord; **r, f, l**, in Italic capitals, to show that they form the *weak, plaintive* or *leaning* chord. In harmony combinations of these tones are taken in several ways, according to scientific rules, and varied to suit the taste of the composer. The Tonic Sol-fa system enables a learner to study harmony almost from the outset, while in the staff system this delightful acquirement is kept back from the pupil until he has attained considerable proficiency.

(2) Persons accustomed to sing know that a tune may be sung too high or too low to suit some notes in it; the intervals are correct but the *pitch* of the voice is at fault. A lower or a higher key-note is required to give free scope. This plainly indicates that there is such a thing as a *movable key-note*, for the voice ranges with the same effect, as far as the tune is concerned, while the pitch differs; for instance, the National Anthem may be sung by four or more persons in just so many different keys, but the air of the tune is identical in every case. That being so proves clearly that we need not learn fourteen scales, as in the old notation, we have only to make ourselves familiar with one representation of the scale, and that suffices for every degree of pitch. To ascertain this pitch, or in other words, *to find the key-note*, we must have some standard by which it is determined. A tuning-fork that gives 512 vibrations in a second will produce C in the upper octave, or C^1, and as the scale of C is the standard or natural scale, any note in it may be taken as the pitch-note or key-note which the music requires. The Tonic Sol-fa scale may then be applied to the standard, and C being determined by the tuning-fork any other note can be found from it. For example, suppose we want to sing a tune in Key G. The tuning-fork gives us C^1, which we call d^1, and singing down the scale we stop at **s**, and changing the name of that sound into **d** we have the key-note of G. It is then well to sing that scale or its chords, to familiarize our ear with its tone relationship, previous to commencing the tune. In the extended modulator which is given in this article, the key of G is the first one on the right, or the first sharp key. On comparing it with the natural key in the centre it will be observed to differ from it only in **t** which is higher up than **f** to give the needful semitone between **t** and **d**; that is the same as making **f** a half note higher, which in the old notation is indicated by a *sharp*, placed on the top line of the staff, meaning that all F's are to be made sharp. In the key of F, or when F is **d**, as in the first column to the left, the difference between it and the key of C is, that as the semitone must come between the third and fourth notes in the scale, **t** is half a note too high, and a flat is used to show that all the B's must be a semitone lower; and this symbol is placed on the middle line of the staff which is the position of B. Compare the other keys in the same manner. In the Tonic Sol-fa we have to take no notice of what notes are sharpened or flattened in the different keys, we find the pitch of the key-note and the tones of the scale fall into their natural places. Thus the mind is not burdened with thinking of where the sharps and flats ought to come, nor perplexed with the counteracting influences of naturals, double sharps, and double flats.

d^1	C^1
t	*B*
l	*A*
s	*G*
f	*F*
m	*E*
r	*D*
d	*C*

The chromatic scale, accidentals, and transitions will be explained hereafter.

THE MODULATOR, PARTLY EXTENDED.

FLAT KEYS. B♭	FLAT KEYS. F	NATURAL KEY. C	SHARP KEYS. G	SHARP KEYS. D
l	r^1	s^1	d^1	f^1
			t	m^1
s	d^1	f^1		
	t^1	m^1	l	r^1
f				
m	l	r^1	s	d^1
				t
r	s	C^1 DOH^1	f	
		B TE	m	l
d	f	ta le		
t_1	m	A LAH	r	s
		la se		
l_1	r	G SOH	d	f
		fe	t^1	m
s_1	d	F FAH		
	t_1	E ME	l_1	r
f_1		ma re		
m	l	D RAY	s_1	d
		ra de		t_1
r_1	s_1	C DOH	f_1	
		t_1	m_1	l_1
d_1	f_1			
t_2	m_1	l_1	r_1	s_1
l_2	r_1	s_1	d_1	f_1

(3) The notation of time in the established system is indicated by the formation of the symbol called a note, whether open or closed, with or without a stem, hooks, &c., and the bar or measure is taken as the unit. In the Tonic Sol-fa time is denoted by accents, in a manner similar to that used in scanning verse, and a pulse or regular time-beat is the unit. A long, heavy down-stroke shows the strong accent; a thin, short one the medium, and a colon the weak. The space between two accent marks is called a *pulse*, and two or more pulses, according to the time required, form a *measure*, corresponding to the bar in the old notation. These are indicated as follows:

TWO PULSE MEASURE.	THREE PULSE MEASURE.	FOUR PULSE MEASURE.	SIX PULSE MEASURE.
S : W	S : : W W	S : W M : W	S : : W W M : : W W

The double bar is placed at the finish of a piece of music, and the bracket shows the parts which are to be sung together, such as first and second treble; or first treble, second, and bass, &c., or words and music only. I have used the letters *S*, *M*, and *W* for strong, medium, and weak to indicate the pulses and the *general* expression. Some musical phrases are sung loud and are then marked with *f* or *ff* (*forte*, *fortissimo*), and others soft, marked *p* or *pp* (*piano*, *pianissimo*), but this does not interfere with the general accentuation of every measure.

The continuation of a tone beyond one pulse is indicated by a dash in the following pulse, or as many as are required, thus:

| d : d | d : — | d : — | — : — |

The half pulse is shown by a period (.); the quarter by a comma (,); and one-third by an inverted comma (‘). The absence of any note or sign signifies that the pulse is silent, or a *rest*, as follows:

SUBDIVISIONS OF TIME.

HALF PULSE TONES.—Indicated by a dot in the middle of the pulse space	d . d : d . d
PULSE-AND-HALF TONES	d : — . d
QUARTER-PULSE TONES.—Indicated by a comma in the middle of each half pulse	d , d . d , d : d , d . d , d
TWO QUARTERS AND A HALF, and a half and two quarters	d , d . d : d . d , d
THREE-QUARTERS AND A QUARTER.	d . , d : d . , d
THIRDS of a Pulse.—Indicated by inverted commas	d ‘ d ‘ d : d ‘ d ‘ d
SILENCES (Rests) are indicated by the absence of notes in the pulse divisions, *i. e.*, vacant space ..	d :
	d . : . d
	d , d . d , : , d . d , d

KEY D. THREE-PULSE MEASURE.

d : d : d	m : m : m	d : m : s	d^1 : — : —
d : d : d	d : — : —	m : m : m	m : — : —
d^1 : d^1 : d^1	s : s : s	d^1 : s : m	d : :
m : m : m	m : — : —	m : s : m	d : :

In this exercise one voice or number of voices sings the upper line, and another the lower.

SIX-PULSE MEASURE.

KEY D. Round in four parts.

d : d : d	d : d : d	m : — : r	d : — : —
Mer-ri - ly,	mer - ri - ly,	sound the	horn;
* m : m : m	m : m : m	s : — : s	m : — : —
Cheer - i - ly,	cheer - i - ly,	o'er the	lawn;
s : — : s	s : — : s	s : — : s	s : — : —
Let it	ring out	loud and	long;
d^1 : — : —	s : — : —	d^1 : — : —	s : — : —
On - -	ward,	On - -	ward.

In singing rounds the second voice commences when the first arrives at the note marked with an asterisk, and the third and fourth voices follow successively in the same manner. Rounds are excellent exercises for learning *time*, which may be marked in three-pulse measure by moving the hand *downward* for the first pulse in each measure, to the *right* for the second, and *up* for the third. In six-pulse do the same twice, but faster. Learn the Sol-fa syllables before the words of the tune are attempted.

Notes and News.

ONTARIO.

The Lincoln High School has made such progress that an application has been made to have it recognized as a Collegiate Institute.

The Kingston Collegiate Institute does not seem to be so heartily supported as it should be. Kingston ought to support a good Collegiate Institute, and it is a matter of regret that its school is in danger of being dropped from the list of Collegiate Institutes.

Mr. J. H. McFaul has been again placed in charge of the Lindsay Model School. We are glad to see that the Public Schools are not to be entirely subordinated to the High School. Mr. Tilley is one of the best High School Masters in the Province, but we are opposed to the principle of giving the control of the Public Schools into the hands of the High School Masters.

The Public School Board in Napanee is prevented from providing necessary additional accommodation by the town council. The 29th clause of the amendments of 1879 is the cause of the trouble.

The Toronto Public School Board has opened a special school for vagrant children, confirmed truants, and those who can only attend school during one half of each day. The room is furnished by Mr. W. H. Howland, and the books, stationery, etc., by Mr. W. J Gage.

Mr. A. Embury of the Perth Collegiate Institute has been appointed Mathematical Master in Brockville High School at a salary of $900 per annum.

The Minister of Education proposes to take the Ontario Art School under the direct control of the Education Department. This ought to be greatly to the advantage of the school, and of art education in the schools of the Province. There is no other collection in America so well calculated to aid students in an art school, as that in the Normal School Museum, Toronto.

The Toronto Normal School has opened with its full number of male and female students.

The County Model School Session is to be lengthened to three months in future.

Temperance is to be taught in the Normal Schools of Ontario. Dr. Richardson's text-book is to be used by the students. It is already used in some of the English Schools.

We are pleased to see that Mr. McNevin, late Mathematical Master in Caledonia High School has been appointed to a similar position in Walkerton High School. We congratulate the people of Walkerton on their choice, and predict for their school a new era of prosperity.

The distribution of prizes at Upper Canada College took place on September the 30th. The occasion was one of unusual interest, as it marked the close of the connection of Principal Cockburn with the institution. He was the recipient of a beautiful dressing-case from his pupils, as a token of the esteem in which they held him. He delivered a valedictory address in which he reviewed the history of the College and showed its success in winning University Honors.

Rev. E. A. Boddy, Fellow of St. John's College, Cambridge, (Eng.) has been appointed Provost of Trinity College, Toronto. Mr. Boddy is a comparatively young man, having been born in 1851, and is the son of the Rev. E. E. Boddy, vicar of Woneish, near Guildford, Surrey. He was educated privately, and entered St. John's College, Cambridge, as a Minor Scholar, in 1871. In the next year he obtained the Bell University Scholarship, open only to the sons of clergymen. His college career was a most successful one, as he obtained the first place in each annual examination, and that is no easy thing for a Johnian to do. In 1873 he was elected to a Foundation Scholarship, and in 1875 took his degree as B. A., coming out as sixth wrangler, and in the following year obtaining honours in theology. In this same year he was elected Naden Divinity Student of St. John's, and in 1878 obtained his Fellowship. Mr. Boddy made his mark in the University by obtaining the Greek Testament Prize in 1876, and the Tyrwhitt Hebrew Prizes in 1878. He was assistant curate of the parish church of Chesterton from 1876 till 1881, and was appointed Lecturer in Theology in St. John's College in 1878, and in Pembroke College in 1880. He has been a member of the Board of Theological Studies in the University and examiner for Cambridge Theological Tripos in 1881, and was twice appointed Select Preacher to the University.

The School of Practical Science, Toronto, opens for its fourth session with an enlarged staff, and we trust that the young men of Ontario will more freely take advantage of the great facilities it offers for giving a thorough practical training in its several departments. The faculty of the school is made up of Professors Wilson, Chapman, Loudon, Ramsay, Wright, and Pike of University College, and Galbraith and Ellis, who confine their labors to the school. Mr. Galbraith teaches engineering and cognate subjects; Dr. Ellis is Assistant Professor of Chemistry, and the others teach the same subjects as in University College, namely, Ethnology, Mineralogy, and Geology, Mathematics and Natural Philosophy, Biology and Chemistry respectively. Dr. Wilson has been appointed Chairman of the Board of Management, and Alfred Baker, the Registrar of University College, its Secretary. The prospectus gives an account of the development of the old School of Technology into the School of Practical Science, and explains the objects for which the institution was established. These are (1) to give all who desire it a thorough training in (a) engineering, (b) assaying and mining geology, and (c) analytical and applied chemistry; (2) to furnish preliminary scientific training for students entering the professions of surveying and medicine; and (3) to furnish separate courses of study for all who wish to avail themselves of the opportunity. Diplomas, admitting the recipients to the standing of "Associate of the School," are granted in each of the three regular departments after due examination at the end of a three years' course of study.

S. T. Morphy, late of Hawksbury, has accepted the position of Mathematical Master of Listowel High School.

Mr. McBride, though offered a re-engagement at Newcastle High School, has been appointed to take charge of Richmond Hill High School, at an initial salary of $1,000. Mr. McBride will no doubt worthily fill the vacancy, caused by the retirement of Mr. Carscadden.

Victoria University had a very large matriculating class this year, and, among the others, one of two young ladies. Victoria, which has the honor of the first lady-matriculant in Ontario, is evidently likely to retain this feature in its class.

Mr. W. G. Brown, B.A., an honor graduate of Queen's University, and a graduate of the Ontario Business College, has been appointed Commercial Master of Galt Collegiate Institute. Mr. Brown's principal work in the school will be the preparation of young men, who do not intend entering any of the learned professions, for practical business, by giving them a thorough knowledge of book-keeping, penmanship, arithmetic, and allied subjects.

Renfrew High School Board is about to engage a third teacher.

Pembroke proposes to erect a new High School building.

Results of the July Examinations.—In last month's Journal we stated that Seaforth High School had passed thirteen out of thirty-five candidates sent up. It should have been thirteen out of twenty-five; one A, seven B's, and five C's. Richmond Hill passed fifteen out of thirty; six B, and nine Intermediate. Pembroke High School passed two candidates in Grade B. Smith Falls High School, out of seven Intermediate candidates who wrote, four passed; two in Grade B, and two matriculants in Law. Entrance examination—twenty-one candidates from Smith's Falls Public School, James McCreary, H.M., nineteen passed; eight candidates from the county, five passed.

NOVA SCOTIA.

The fourth session of the Provincial Educational Association in Truro; (July 13th and 14th), was opened, after routine exercises, with a paper on Geometry by Prof. Eaton of the Normal School. The subject was discussed under the following heads:

1. Beginners should get their first knowledge of the geometrical relations by observations of things embodying those relations. They must get some knowledge of geometrical facts prior to any formal demonstration of them. And it will be well if they are trained to exact geometrical construction, and to the arithmetical application of simple principles, before entering upon the study of geometry proper.

2. There is need of a reconstruction of the Euclidean order of propositions. Other sciences present to the learner a properly classified body of facts. Why should geometry, whose essence is logic, be unique in not presenting to its votaries a logical development of subject matter. Euclid's order is unscientific. The order of sequence is well preserved, each proposition depending on preceding ones. The following is an outline of a more systematic plan:—

Straight lines.—Propositions relating to oblique lines, perpendicular lines, parallel lines; and of necessity propositions relating to angles made by lines which simply meet lines which intersect and the secant of parallel lines.

Combination of lines into figures.—1. Triangles: propositions pertaining to relation of sides to relation of angles; to mutual relation of sides and angles; to relation of triangles to one another, viz., equality, similarity and equivalence. 2. Quadrilaterals: propositions relating to mutual relations of parts, and to conditions and consequences of equality, equivalence and similarity. 3. Circles: propositions relating to mutual relations of parts, to mutual relations of circles, and to circumscribed and inscribed polygons.

3. The principles of the science are so closely interwoven with all industrial and mechanical arts, that he who studies geometry only in the abstract sees only half a planet, though a beautiful one. Our school work should be so adjusted that, step by step as the student advances in the unfolding of the geometrical logic, he should be led to see how the great world of human industry is held together by its all-pervading omnipresence.

This able paper was discussed by Principal McKay, the President, and others.

The remainder of the session was devoted to a continuance of the discussion of the proposed course of study. Mr. Burbidge, (Halifax), spoke in terms of general approval. He strongly advocated uniformity of studies, uniformity of text-books, and uniformity of attendance at the Normal School.

Principal McKay called attention to the eminently practical character of the proposed requirements. Messrs. J. J. Parker, Tuttle, Crowell, and McKay continued the discussion.

Professor Eaton thought that there might be two difficulties in reference to the teachers in connection with this matter. 1st, to those who were preparing for examination; 2nd, to those who had received their license. The former would be required to get up work additional to the already prescribed syllabus. This difficulty, however, could be easily obviated by omitting a part of the present requirements, *e.g.*, Which was the more important: physiology, which treats of our systems, "their growth, sustenance, etc.," or English history? Evidently the former. The same might be said of some other branches. And those who might be required to get up in this branch could do so if the plan of our neighbours were adopted, that is, to form "summer schools" during vacations, by teachers meeting at some suitable place, and engaging a good naturalist for an instructor.

At the opening of the fifth session, the election of members of the Executive Committee took place. The following were elected:—Principal McKay, Secretary McKay, Prof. Eaton, Dr. Hall, Miss Logan, Inspector Condon, Miss Russell (Dartmouth).

A. Cameron, Esq., (Yarmouth), read a valuable paper on "Usage of words." In addition to being learned and suggestive, it secured attention by its ingenious departure from the conventional form of Association essays. The writer held that etymological analogies must yield to the force of cultivated usage.

The remainder of the fifth session was interestingly occupied in listening to addresses by the Rev. Dr. Kempt, Principal of Ladies' Academy, Ottawa, and Rev. Dr. Ross, President of Dalhousie College, Halifax.

The sixth and last session was devoted to routine business, and the conclusion of consideration of the proposed course of study.

The adoption of Common School Course, Class I., was moved and seconded. Discussion followed, participated in by Messrs. Lay, Tuttle, D. McD. Clarke, McKittrick, McKenzie (Dartmouth), and King. Class II. was adopted without modification.

Inspector McKenzie thought the Committee must be gratified to find that radical objections had not been taken to the suggestions. No greater blessing could be conferred on the schools of the Province, nor on the inspectors, than the provision of a basis of uniform classification. He spoke with vigor of the imperfect classification now prevailing, which, in the absence of a uniform course, the inspectors were largely unable to remedy. He also approved of the general directions. He laid great stress on the importance of military drill. He regarded the teaching of agricultural chemistry as important. He moved the adoption of Class II., seconded by Inspector Condon.

After discussion by Messrs. Andrews, D. S. Clarke, Fields, Burbidge, and others, Mr. Tuttle moved several amendments, none of which were adopted.

Mr. H. S. Congdon moved to omit "Animal Life" from oral lessons of Class II. Motion was not adopted.

Mr. King moved an alteration in the Arithmetical requirements, and Mr. McKenzie in those pertaining to Writing, neither of which was adopted.

Mr. Burbidge, seconded by Dr. McKenzie, moved adoption of Class III. The mover alluded to improvement in use of Readers secured by contemplated course. The seconder, Dr. McKenzie, again alluded to the importance of agricultural chemistry.

Inspector Roscoe, on behalf of several teachers, enquired if too much Grammar is not required under Class III (6).

Principal Calkin explained that the requirement was founded on experience of work actually done.

Mr. Tuttle moved that the required recitation under this class be increased to 320 lines. Not adopted. He also moved to add to Spelling requirements, Meanings of Words. Also, under Language (5), to introduce text-book on Grammar. Not adopted.

Class III. was adopted.

Mr. Andrews moved, and Mr. Lay seconded, the adoption of Class IV.

Several members spoke. Mr. Tuttle made several suggestions, which did not meet with favour.

Inspector McKenzie moved, seconded by Mr. McArthur, that Writing series be completed in Class IV. Adopted.

Inspector Roscoe suggested that the Arithmetic included in Chapter IV. was excessive.

Mr. Roderick McKay moved, and Mr. Godfrey seconded, that Simple Interest be substituted for Equation of Payments in Chapter IV. (8). Adopted. Class IV. as amended was adopted.

On motion of Mr. McArthur, the whole Common School Course as amended was then adopted for recommendation to the educational authorities.

On motion of Inspector McKenzie, seconded by Mr. Burbidge, the task of framing an advanced or High School Course was assigned to a committee to report to the Association next year. The following were named and appointed as this committee, which, it will be seen, is of a representative character: Principals Calkin and McKay, Inspectors McKenzie, McDonald, and Pattillo, Professor D. F. Higgins, Professor Eaton, Dr. Hall, Messrs. Lay, Godfrey, and Burbidge.

The Association adjourned at 10.30 p.m., to meet next year according to arrangements of Executive Committee. The impression made on the minds of spectators by the members of the Association as they conducted their business and discussions, was exceedingly favourable.

The enrolled attendance from the various Inspectoral Districts of the Province was as follows:—

District No. 1, Halifax	39
" " 2, Lunenburg and Queen's	5
" " 3, Shelburne and Yarmouth	6
" " 4, Digby and Annapolis	4
" " 5, King's and Hants	45
" " 6, Antigonish and Guysboro'	3
" " 7, Cape Breton and Richmond	1
" " 8, Inverness and Victoria	4
" " 9, Pictou and South Colchester	43
" " 10, Cumberland and North Colchester	24
Total	174

MANITOBA.

The Hon. Joseph Royal, M.P., has been re-elected Vice-Chancellor of the University of Manitoba, for the ensuing year.

Messrs. W. Cowan, M.D., and J. A. M. Aikins, M.A., and the Hon. S. C. Biggs, B.A., were elected by Convocation, to represent that Body on the Council of the University of Manitoba.

The new Board of Studies consists of the following members, viz: From St. John's College, the Chancellor and Professor Omeara, M. A.; from Manitoba College, Professor Hart, M.A., B.D., and Rev. J. Robertson; from St. Boniface College, Rev. A. Lavoie, S.T.D., and Professor Cherrier; and from the University Council, the Rev. W. C. Pinkham, B.D., and Hon. S. C. Biggs, B.A.

The Board of School Trustees for Winnipeg has engaged four additional teachers besides the one to fill the vacancy caused by Mrs. Chisholm's resignation. The new teachers are: Messrs. John D. Hunt, A. Springer, E. A. Blakely, John Acheson, and Miss Aggie Eyres. The total staff is 16.

At Portage la Prairie the school population has increased so rapidly that additions have been made to the school-house and a third teacher hired; and at a meeting held recently in that rising town, at which the Rev. W. C. Pinkham was present, the ratepayers authorized the trustees to purchase a site for a new central school, and to have the foundation for the new building laid this fall, and the building itself ready for occupation next summer. The indica-

tions are that Portage la Prairie will be a very strong educational centre.

The Rev. W. C. Pinkham has lately resigned the incumbency of St. James', a position held by him for 13 years, in order to devote his whole attention to the duties of his office as Supt. of Education.

The Rev. Canon Mackay, a well known and most successful Church of England missionary, and one of the Professors in Emmanuel College, Prince Albert, North West Territories, has been visiting in Manitoba.

The sale of certain school lands which was advertized to take place on the 19th inst. has been postponed for one month. The Board of Education are naturally anxious that a good price should be realized for them.

At a recent meeting of the promoters of the establishment of a school of Art and Design, a Committe was appointed to draft a constitution, to canvass for Funds, and to ascertain the probable salary of a teacher.

Readings and Recitations.

FOR THE SOLDIERS.

A call came up from the soldiers' camps,
  And sounded in our ears,
Above all the roar of the heavy guns,
  And the ringing battle-cheers.
It said : "We are fighting for you, for yours ;
  In the forefront of danger we stand ;
We are driving the ranks of the rebels back ;
  Will you lend us a helping hand ?

"We give you all of our health and strength ;
  We are flinging our lives away ;
Our days and nights, they are spent for you ;
  Will you give us just one day ?"
And the farmers afar, in the Prairie State,
  Heard the call as it sounded by ;
And they answered the voice from the far-off camps
  With a cheerful, whole-souled "Ay."

A little girl stood and watched the teams,
  With their treasures running o'er,
With their loads of the full-eared yellow corn,
  Drive up to her father's door ;
Till the rosy apples, and onions white,
  And squashes golden and round,
That the farmers brought of their hard-earned stores.
  Lay heaped all over the ground.

And she said : "Oh, papa, *I* have nothing to give
  That the soldiers would care to hold ;
I am *so* sorry I am so small ;
  I have neither silver nor gold.
There's my doll, and my hoop, and all my toys,
  But they don't want those, you see,
And they would not care for the games or the books
  Of a little girl like me.

"I think, papa, it is very hard;
  I have thought all my playthings o'er,
And there isn't a thing they would want to take :
  I wish I wasn't so poor !
I'm sure there is nothing I would not give
  To make their work seem less—"
And here she stopped, for her little pet lamb
  Was pulling at her dress.

They had played together, the child and the lamb,
  All the long, bright summer days.
It had shared her supper of bread and milk—
  She had taught it its winsome ways.
It would run at the sound of its whispered name
  To the mistress it loved so well;
And she loved it, her darling little pet,
  Far better than I could tell.

She stopped, and looked in her father's face,
  And her eyes grew large and wide ;
Then she flung her arms round the lamb's soft neck,
  And knelt down by its side.
And her eyes grew full of the blinding tears
  That she could not wipe away ;
And, "Oh, papa, my darling lamb !"
  Was all that she could say.

And closer and closer she held it then,
  And faster the tears ran down,
Till she lifted her head, and spoke again
  Through the sobs that her words would drown :
"Oh, papa, I never had thought of this !
  It is all my own, you know.
Oh, pet, you must go for our soldiers brave !
  My darling, I love you so !"

And stronger growing : "Oh, yes, papa,
  You must not look so grave !
Why, they give up their arms and their lives for us :
  It is everything I have !
It isn't much—I'm a *little* girl—
  But perhaps, if you tell them so,
They will take it with all the bigger things—
  Oh, darling, I love you so !"

I think the angels looked down from heaven,
  With tears in their shining eyes,
At the tearful little upturned face,
  And the noble sacrifice.
God love her, and bless her, and save the land
  That claims her among its brave,
Who, 'mid their tears, with unfaltering hand
  Have given all they have !

Teachers' Associations.

The publishers of the JOURNAL will be obliged to Inspectors and Secretaries of Teachers' Associations if they will send for publication programmes of meetings to be held, and brief accounts of meetings held.

MORRISBURG.—The semi-annual Convention of the Teachers' Association of the County of Dundas, was held in the High School building, Morrisburg, on the 8th and 9th of Sept., and was fairly attended, The chair was taken at 10:30 a.m., the President, Arthur Brown, Esq.. I.P.S., presiding. The minutes of previous meeting were read by Wm. H. Irvine, B.A., Secretary-Treasurer, and confirmed by the meeting. The meeting was opened by Mr. A. C. Smith reading an essay on Teaching Dictation ; how to make it effective, which was handled in a very able and energetic manner. The chief points he insisted on were : (1). The Dictation should be written in exercise books for that purpose. (2). Each book should be examined, and all errors detected by the teacher. (3). Each error corrected by the pupil, and (4). Slates should not be used, nor pupils allowed to correct each others' work. *Officers elected.*—Mr. Arthur Brown, I.P.S., re-elected President ; Miss Margaret Rose, Vice-President ; Wm. H. Irvine, B.A., re-elected Secretary-Treasurer ; Messrs. A. A. Whittaker, A. S. Rose, A. C. Smith, Jas. Flanagan, and P. Jordan, Management Committee. A grant of fifteen dollars was made towards getting fifty copies of the CANADA SCHOOL JOURNAL, for members of the Association. Messrs. A. S. Rose, A. A. Whittaker, and H. Callendar to be a committee to secure the requisite number of subscribers. Mr. P. Jordan, an old and worthy veteran of the profession, gave an animated address contrasting the school-houses, teachers, and examinations of 1850 and 1880, which bore high testimony to the present efficiency of the schools in the County of Dundas, and their very marked progress under the untiring zeal, and able superintendence of the Inspector, Mr. Arthur Brown. *Second day.*—Meeting opened at 9:15 a.m., the President in the chair. The roll being called and minutes of previous day read and adopted, the following questions left over from Question Drawer of previous day were brought up: (1). How to close a Ledger, which was answered by J. O. McGregor, M.A., in a very lucid manner. (2). Have intransitive verbs voice, which was briefly discussed by the Secretary, W. H. Irvine. A communication was read, from Mr. Bow, expressing his regret for not being able to be present and address the meeting upon the subject, "How to teach the Alphabet." Messrs. J. O. McGregor, M.A., A. S. Rose, Danl. Earl, P. Jordan, and Wm. Brunton were appointed to be a committee to secure the erecting of a monument to the late Irvin Stuart, B.A., late Head Master of Morrisburg High School, who was intimately connected with and took a very active part in all affairs of the Association since its beginning, as well as in the Educational advancement of the County, and whose demise is deeply regretted by all the teachers in Dundas. Miss Julia Thompson, of New York, gave a very practical and instructive address on Elocution, which showed a thorough knowledge of the subject, which was attentively listened to, and highly appreciated by the members. W. A. Whitney, Esq., M.A., Head Master of Iroquois High School, gave illustrations of a concise manner of solution of several intricate problems and theories in Algebra. The Question Drawer being then passed, the meeting adjourned until 1:30 p.m. *Afternoon session.*—After the general routine of opening, the Audit Committee reported that there was a balance of $79.97 on hand on 1st Jan., 1881. The Secretary, W. H. Irvine, B.A., gave his views concerning The Unitary Method vs. Rule of Three, which excited

considerable discussion among a few of the members. The Association then adjourned to meet at Iroquois on the second Thursday and Friday in February next. On Friday evening a public lecture was delivered by Mr. J. B. Watson, in Merkley's Music Hall, to an appreciative audience.

RESTIGOUCHE.—The fifth annual meeting of Restigouche County Teachers' Institute was held at Dalhousie, on the 7th and 8th ult. The President, Rev. Mr. Nicholson being absent, Vice-President, Inspector Cox, took the chair. The Officers for the ensuing year were then elected, viz. :—Rev. Thos. Nicholson, President; P. Cox, A.B., Vice-President; J. M. Palmer, A.B., Secretary-Treasurer; W. Firth and Miss Nancy Robinson, additional members of committee. It was decided to hold the next annual meeting at Campbellton, on the Thursday and Friday immediately preceding summer vacation. The following programme was then taken up, a short time being devoted to the consideration of each subject :—"Faults of Speech and how to correct them," "Learning and Health," "How to Secure a High Moral tone in School," introduced by Mr. Firth. "School Discipline," introduced by Mr. Dawson. Address on "The Properties of Light," by Mr. Ross. "Importance of Industrial Drawing," "Best Method of Teaching Grammar," "An Object Lesson," by Miss Sharpe. "Best Method of Teaching Geography," "Necessity of Cheerfulness on the part of the Teacher," "The Plant and what it feeds on." During the session greetings were exchanged with Carleton County Institute. The Institute adjourned to meet next year at Campbellton.—J. W. PALMER, Secretary.

NORTH ESSEX.—The Teachers' Convention for North Essex will take place at Sandwich, on the 27th and 28th of October next.

NORTHUMBERLAND.—The next regular semi-annual meeting of the Teachers' Association of the County of Northumberland will be held in the Collegiate Institute, Cobourg, on Thursday and Friday, the 6th and 7th inst. Programme, *Thursday*—10 to 12, Preliminary session, appointment of auditors and nominating committee, educational periodicals, miscellaneous business; 1.30 to 2.30, English Grammar, the verb, Mr. G. E. R. Wilson; 2.30 to 3.30, "How to Conduct a Recitation," Mr. A. G. Knight, M.A.; 3.30 to 4, "Use and Abuse of Text-books in Teaching," Mr. D. I. Johnston; 4 to 5, Home lessons, Mr. W. E. Bartlett; 7.30, Lecture, "Mistakes in Education," Rev. S. S. Nelles, D.D., LL.D.—admission free, Lecture in the Assembly Room of the Collegiate Institute. *Friday*—9 to 9.30, Auditors' report, miscellaneous business; 9.30 to 10.30, Elementary Physiology, Mr. R. K. Orr, B.A.; 10:30 to 11.30, Drawing; 11.30 to 12, Election of officers, time and place of the next meeting; 1 to 2, Question drawer, Messrs. Orr, Ellis and Ash; 2 to 3, Uniform Promotion Examinations, Inspectors Tilley and Scarlett; 3 to 4, Geography, Mr. S. Dixon. Questions for the Drawer to be forwarded to the Secretary or any member of the Committee, or handed in not later than 2 p.m. of the first day. D. C. McHenry, M.A., President; D. E. Stephenson, Secretary.

STORMONT.—The ninth half-yearly meeting of the Stormont Teachers' Association will be held (D.V.,) on the 6th and 7th inst., in Mr. Duvall's Hall, Newington. The opening session of each day will commence at 9 a.m. Programme, *Thursday*—Opening address, by the President; Reading minutes, by the Secretary; Short methods in Arithmetic, Mr. Cook; Algebra, Mr. Casselman; Reading III. and IV. Books, Mr. Wallace; Evening Lecture, by the Secretary. *Friday*—Business reports; &c.; Notes of the Provincial Teachers' Association, by the President; "Goldsmith" and "Cowper," Mr. Smith; Drawing, Mr. Casselman; General discussion on Pronunciation. It is to be hoped that all the teachers will be in attendance on the forenoon of the first day, so as to derive the greatest possible benefit from the meeting.—A. MCNAUGHTON, President; GEO. BIGLOW, Sec-Treas.

PRESCOTT.—The next convention of the Teachers' Association of the County of Prescott will be held at Vankleek Hill, on Friday and Saturday, the 14th and 15th inst. Programme, *Friday*—Part 1st, 9 to 12 a.m.—"The Teacher," Opening address, by W. J. Summerby, I.P.S.; "How to Teach History," F. Bisset, L'Orignal, and Alexander Johnston, Fournier; French Grammar, A. Daoust, St. Eugene. Part 2nd, 1.30 to 4.30 p.m.—English Composition, T. Otway Page, B.A., Vankleek Hill; Arithmetic, N. G. Ross, Plantagenet; The Essay, C. K. Gray, Vankleek Hill; French address, O. Duford, Assistant I.P.S.; Part 3rd, 7 to 10 p.m.—A grand literary and musical entertainment, consisting of recitations, readings, solos, duets, anthems from an efficient choir, and addresses from the clergy and the leading men in the teaching profession. *Saturday*—Part 4th, 9 a.m. to 1 p.m.—"Newspapers," J. A. Houston, B.A., Hawkesbury; "Junior French Reading Classes," J. Belanger, L'Orignal; "The Proper Method of Teaching Arithmetic in a Public School," Moses Lefebvre, St. Eugene; "Discipline," Henry Gray, H. M. M. S., Vankleek Hill. W. J. Summerby, President; H. Gray, Secretary.

HALTON.—The semi-annual meeting of the Halton County Teachers' Association will be held in the Acton Public School on Thursday, Friday and Saturday, the 13th, 14th and 15th inst. Programme, *Thursday*—Forenoon session, 10 a.m.—Opening, reading minutes and communications, appointing committees, reports of committees. Afternoon session, 1.30 p.m.—Roll call; "How to Teach Tablet Reading Lessons," Geo. W. Ross, Esq., Strathroy; "Discipline," Miss M. J. Crooks, Burlington; discussion led by Miss L. Meade, Mansewood; "Mistakes in Reading," Geo. W. Ross, Esq. Evening session, 7.30 p.m.—Lecture in the Methodist Church, by Geo. W. Ross, Esq., M.P., subject, "Intellectual Forces." *Friday*—Forenoon session, 9 a.m.—Opening, reading minutes, roll call; "The Teacher's Qualifications," Rev. D. B. Cameron, Acton; "Statics," N. J. Wellwood, B.A., Head Master Oakville High School; Report of committee on Superannuation Fund. Afternoon session, 1.50 p.m.—"Teachers' Salaries," Miss E. McKellar, Burlington; discussion led by Mr. G. N. Peer, Burlington; Class taught by Mr. T. Moore, Acton, lesson "Physical Geography of North America," to be followed by a paper on "How to Teach Geography," by Mr. McLean, Milton, general discussion; "Written Examinations," Mr. D. McEachran, Nassagaweya, discussion led by Mr. R. Coates, Norval. Evening session, 7.30 p.m.—Lecture in the Presbyterian Church, by Rev. Mr. Thompson, of Ayr, subject "Music." *Saturday*—Forenoon session, 9 a.m.—Opening, reading minutes, roll call; unfinished business; general discussion on Teaching the Definitions and Applications of Words in Reading Lessons; discussion led by Mr. W. Davidson, Bronte; closing business. Robert Coates, Secretary.

PICTON.—The semi-annual convention of the Picton Teachers' Association will be held on Friday and Saturday, 14th and 15th inst., in the Council Chamber, Picton. Programme—Our Text Books; Application of Simple Rules in Arithmetic; Reading; How to Manage a School; Drawing; Moral Instruction in School; Drill and Calisthenics; Reading by a Class; an Object Lesson; Question Drawer. Messrs. Brown, Dobson, Kinney, Murray, Osborne, Rothwell, and others, are expected to introduce subjects. An evening session may be held on Friday evening, the 14th. A full attendance of teachers is expected on both days. G. D. Platt, President; J. Kinney, Secretary.

NORTH HASTINGS.—The next meeting of the North Hastings Teachers' Association will be held at Madoc, on Thursday and Friday, the 6th and 7th inst. These days will be reckoned as visiting days for teachers in attendance at the convention. Programme, *Thursday*—10 to 12, Routine business; Railway system of Ontario, Mr. Rowe; English History, Mr. Kirk; 2 to 5 p.m., Spelling, Mr. Mackintosh, I.P.S.; Geography of North America, Miss McDermid; Reading to Second, Third and Fourth Classes, Mr. Smith, I.P.S., Hamilton. 7.30 p.m., A public lecture. *Friday*, 9 to 12 a.m., Writing, ———, Com. Coll.; Grammar, Mr. Smith, I.P.S.; 1.30 to 4.30 p.m., Canadian History, Mr. Smith, I.P.S.; Address to Teachers, Mr. Mackintosh, I.P.S.; Question drawer. Readings by Messrs. Rowe, Beall and Armour, and Misses McDermid and Christie, will be given during the session of the convention. Geo. Kirk, President; Jessie Riddel, Secretary.

SOUTH GREY.—The semi-annual meeting of the South Grey Teachers' Association will be held in Durham, on Thursday and Friday, the 6th and 7th inst. Programme—Routine business; President's address; Address ad libitum, W. Ferguson, I.P.S.; "Literature," J. Reid, B.A.; "Tonic Sol-fa System of Music," J. W. Robertson, Toronto; "How to Teach Composition," I. C. Buchanan; "Teachers' Encouragements and Discouragements," W. A. Jones; "How to Teach Arithmetic," W. M. Atton; "How to Secure and Retain Order in a Class," M. P. McMaster; "Recitation, its Correct Methods," D. McDonald; "How to Teach Geography," John Reid; Delegates' report, W. J. Galbraith; "Fractions, special reference to use of Signs," F. S. Mearns; "How to Teach Writing," R. Beatty; "Botany in Schools," W. Gorsline; "How to Parse the Verb," N. W. Campbell. Teaching will be illustrated with classes in Geography, Grammar, History, Arithmetic and Spelling. Questions for drawer to be sent to W. A. Jones, Yeovil P.O. A suitable entertainment will be provided for Thursday evening. M. N. Armstrong, President; J. C. Bain, Secretary.

LENNOX AND ADDINGTON.—The semi-annual meeting of the Lennox and Addington Teachers' Association will be held at Napanee, on Friday and Saturday, the 14th and 15th inst. The following subjects, among others, will be discussed :—"History," introduced by C. Fessenden, B.A.; "Teachers' Associations," by David Hicks, B.A., Head Master of Newburgh High School; "How to Teach Fractions," by Angus Martyn; "How to Teach Grammar to beginners," by Ralph Tinsdale; "How to Teach Drawing," by Michael James; "How to Teach Writing," by J. W. Lyman; "The Railway System of Ontario," by James Bowerman; "Hints to Teachers," by F. Burrows, Inspector. In addition to the above gentlemen, other educationists from abroad are expected to be present to take part in the proceedings. The usual entertainment, consisting of addresses, music, etc., will be given on Friday evening. F. Burrows, President; Geo. Kimmerly, Secretary.

CHATHAM.—The semi-annual convention of the Chatham District Teachers' Association will be held on Thursday and Friday, the 13th and 14th inst., in the Central School, Chatham. Programme, *Thursday*—10 to 10.30 a.m., Routine business; 10.30 to 11.15 a.m., Mental Arithmetic, illustrative teaching with a class of children, Mr. E. Best; 11.15 to 12 noon, "How to Strengthen the Power of Observation, as a means of teaching Orthography," W. M. Nichols, B.A., P.S.I.; 1.30 to 2.15 p.m., "How to make Grammar Attractive," Mr. W. H. Shaw, Vice-President; 2.15 to 2.30 p.m., Receiving questions for Question Drawer; 2.30 to 3.30 p.m.; "Development of Character in the School-room," Rev. J. R. Battisby; 3.30 to 4.15 p.m., Report of Committee on School Diplomas. *Friday*—9 to 9.45 a.m., President's Report of Ontario Teachers' Convention; 9.45 to 10.30 a.m., Geography, illustrative teaching with a class of children, Mr. S. Knight; 10.30 to 11 a.m., Registration of members, Secretary and Treasurer; 11 to 12 noon, Lecture on Elocution, Miss Lewis, Elocutionist, Toronto; 1.30 to 2.30 p.m., "On the Principles and Uses of Models and Diagrams in School," W. E. Hamilton, B.A., T.C., D.; 2.30 to 3 p.m., Answers to Questions in the Question Drawer; 3 to 4 p.m., "Facts and Dates of English History" (Memoria Technica), J. Donovan, Esq. A literary and musical entertainment will be given on Friday evening, in the Temperance Hall, Scane's Block. Readings by Miss Lewis, Teacher of Elocution, Toronto. W. H. Coles, Esq., President, in the chair.

WEST LAMBTON.—The next regular meeting of the West Lambton Teachers' Association will be held at Petrolia, on Thursday and Friday, the 13th and 14th inst. Programme, *Thursday*—9.30 to 10, Business meeting; 10 to 11, Arithmetic, Decimals, Hugh Beaton; 11 to 12, Composition, Miss Langton; 2 to 3, Reading, Second Class, R. McWhorter; 3 to 4, "The Judicial Functions of the Teacher," G. W. Ross; 4 to 5, "How may our Association be made more efficient," James McLurg. *Friday*—9 to 10, Canadian History, W. S. Howell; 10 to 11, Hygiene in Schools, Wm. Sinclair, B.A.; 11 to 12, Query Drawer, Messrs. Hunter, Wark and McLurg; 2 to 3, History, Intermediate, J. P. Balfour; 3 to 4, Dictation and Spelling, J. B. Wynne. G. W. Ross, M.P., will deliver a lecture on Thursday evening. Each teacher must come prepared to discuss the subject marked in programme sent him. All questions for Query Drawer to be handed in during the first day. John Brebner, President; John Johnston, Secretary.

WEST MIDDLESEX.—The next regular meeting of the West Middlesex Teachers' Association will be held in the basement of the Presbyterian Church, in the Town of Strathroy, on Thursday and Friday, the 13th and 14th inst. Programme, *Thursday*—1.30 to 2, President's Address, Mr. A. L. Leitch; 2 to 3, Canadian History, Mr. R. McLean; 3 to 3.30, Class Movements and Manners, Mr. M. Swartout; 3.30 to 4, Abbreviations in Grammar, Mr. H. D. Johnson; 4 to 5, Writing, First and Second Classes, Mr. L. Welch Evening Session, 7.30 to 10, A debate of the subject: "Resolved, That there should be free instruction for those passing entrance to the High Schools." Messrs. Wood and Dunsmore affirm; Messrs. Johnson and Leitch, deny. Each speech will be followed by music or recitation. *Friday*—9 to 9.30, Report on delegate to Provincial Association; 9.30 to 10, How to teach the Simple Rules of Arithmetic, Mr. J. S. Carson; 10 to 10.30, A paper on the Relation of Teachers to their Profession, Rev. J. M. Clarke; 11 to 11.30, Report of Committee on Promotion, Mr. A. B. Gilbert; 1 to 2, Grammar, Third Class, Mr. A. Toal; 2 to 3, Structure of the British Parliament, Mr. A. Tod; 3 to 4, General business. The roll will be called at the opening and close of each session. A. L. Leitch, President; A. B. Gilbert, Secretary.

WEST BRUCE.—The next meeting of the West Bruce Teachers' Association will be held in the Central School, Kincardine, on Friday and Saturday, the 14th and 15th inst. The following is the programme: President's address (time 15 minutes); Readings—Misses M. Morrison, R. J. Millar, Tina, Murray and Jessie McLean, Messrs. Freer and Alexander (5 minutes each); Essays—Miss E. Ross, Messrs. J. Glass, D. Thompson, W. J. Huston, Thos. Smith and S. Marshall (15 minutes each); Case, A. A. McRae and T. C. Graham (15 minutes each); Agricultural Education, T. Froude (30 minutes); Infinitives and Participles, H. B. McKay and B. Freer (15 minutes each); Short Methods in Arithmetic, A. H. Smith (30 minutes); How to Secure Regular Attendance, a discussion, led by Neil A. McKinnon (40 minutes); Vulgar Fractions, R. D. Hall and Ewen McKenzie (20 minutes each); Canadian History, R. Johnstone and D. Ross (20 minutes each); Geography, to end of Third Book work, G. W. Ross (40 minutes); Algebra, G. W. Priest and H. McLean (20 minutes each); How to deal with Indolent Pupils, G. W. Ross (40 minutes); School Routine, G. W. Ross (40 minutes); Report of the Delegation to Toronto (15 minutes); Question Drawer, to be answered by a committee (20 minutes). The Library for the Association has been secured, and will be ready for distribution. On Friday evening G. W. Ross, M.P., will deliver a lecture, entitled "Elements of National Power." F. C. Powell, President; Robert Johnstone, Secretary.

DUFFERIN.—The semi-annual meeting of the Dufferin Teachers' Association will be held in the Model School, Orangeville, on Friday and Saturday, the 14th and 15th inst. Programme—Opening Address, N. Gordon, Esq., P.S.I., Dufferin; Essay on Teaching and Telling, W. J. Allison; Tablet Class, James McClinton; Mathematical Geography, John Tait, Esq., Collingwood Collegiate Institute; Geography to Beginners, Simeon Kelly; "Spell It," D. P. Clapp, Esq., B.A., P.S.I., North Wellington; Arithmetic to Beginners, Miss Lawson; How to Teach English History, John Tait, Esq., Collingwood Collegiate Institute; A Reading, Wm. McKenzie; Analysis and Parsing of "The Deserted Village," as contained in the Fifth Reader, Alex. Steele, Esq., B.A., H. M. Orangeville H. S.; Tonic Sol-fa System, J. L. Hughes, Esq., P.S.I., Toronto; Senior Arithmetic, John Tait, Esq., Collingwood Collegiate Institute. Class II. Part I. Reader, Miss C. Fields; Algebra to Beginners, Alex. Steele, Esq., B.A., H. M. Orangeville H. S.; Essay on Elocution, J. T. G. Varcoe; How to Teach Canadian History, J. L. Hughes, Esq., P. S. I., Toronto. Third Class, Reading Lesson, Miss Banks; Drawing, J. L. Hughes, Esq., P. S. I., Toronto. On Friday evening, the 14th inst., J. Laughlin Hughes, Esq., P. S. I., Toronto, will lecture in the Town Hall, on "School-room Humor." F. C. Stewart, Esq., Warden of Dufferin County, has kindly consented to occupy the chair. Doors open at 7.30, Lecture to commence at 8 p.m. N. Gordon, P.S.I., President; F. B. Denton, Secretary.

HALDIMAND.—The semi-annual meeting of the Haldimand Teachers' Association will be held in the Central School, Dunnville, on Friday and Saturday, the 21st and 22nd inst., commencing at 9 o'clock a.m. Programme, *Friday*—Reading Minutes of previous meeting; President's Inaugural Address, Miss Dalton, President; The Higher Education of Women, H. E. Kennedy, B.A.; Junior Arithmetic, William Ayers; Gleanings, Miss M. J. Davis; School Management, How to Teach the Tablets, G. W. Ross, Esq., M.P.; Literature, its Origin and Benefits, Rev. G. Johnstone. *Saturday*—Mistakes in Reading, School Routine, How to deal with Indolent Pupils, G. W. Ross, Esq., M.P.; The English we Use, C. Kemp, B.A.; The Study of Agriculture in Schools, J. A. Murphy; The Relation of Literary Men to Christianity, Rev. J. E. Lanceley. Question Drawer, Answer on School Law, C. Moses, P. S. I.; on Grammar, C. W. Harrison, M.A.; on Discipline, R. G. Cavanagh; Professional Topics. On Friday evening G. W. Ross, Esq., M.P., will deliver his celebrated Lecture, entitled "Intellectual Forces," under the auspices of the Haldimand Teachers' Association. Admission to the Lecture 10 cents. Doors open at half-past Seven. It is hoped that every teacher in the County will be present. A cordial invitation is extended to Trustees and all friends of Education. R. P. Echlin, M.A., President; W. R. Telford, Secretary.

EAST LAMBTON.—The Association met in Forest on Friday and Saturday, the 16th and 17th ult. Mr. Barnes, P. S. Inspector, occupied the chair, and filled it in a very able manner. Mr. A. Macdonald introduced the subject of Canadian History. This led to an animated discussion, the prevailing opinion being that text-books on this subject should be used by the pupils at home, not at school. Mr. D. Mosher showed his method of teaching "First Lessons in Factoring." Mr. White presented an exhaustive report of the proceedings at the Provincial Convention. Mr. D. McAlpine, with the aid of blocks and diagrams, illustrated his method of teaching Reduction. His explanations were clear and concise. G. W. Ross, M.P., conducted a long and most instructive discussion on "Mistakes in Reading." The teachers were thoroughly interested, and cannot fail to teach better as the result of this exercise. On Friday evening Mr. Ross delivered a very thoughtful lecture on "Intellectual Forces." No abstract could do justice to the lecture. On Saturday President Barnes explained fully in detail the method of keeping Registers and making out Annual Reports; and Mr. Ross occupied the remainder of the time in giving practical hints on the method of teaching Reading in Primary Classes.

REVIEWS.

ELEMENTS OF QUATERNION, BY A. S. HARDY, PH. D., PROFESSOR OF MATHEMATICS, DARTMOUTH COLLEGE. *Ginn, Heath & Co., Boston.*—The author of this treatise has shown a thorough mastery of the Quaternion Calculus, and has anticipated and removed many of the difficulties which beset the student of Mathematics, in his endeavor to make use of this elegant and powerful instrument of analytical research. The work possesses more than ordinary merit, and is a credit at once to the author and to the publishers. The explanations are exhaustive, concise and clear, and many examples are given which illustrate admirably the simplicity and brevity of the Quaternion Methods. A greater number of examples and problems, with answers and short hints as to their solution, would be appreciated by most students, and especially by those who do not possess the advantages of attendance on lectures, and would we think add to the usefulness of the work. The publishers have sent out the book in a neat form—the paper, type and binding are all that could be desired.

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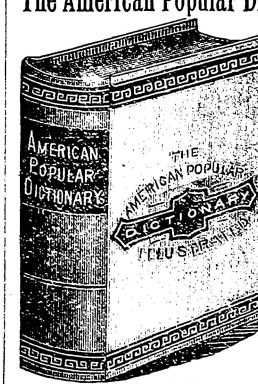

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During the past two months two very prominent educators have visited the office of the CANADA SCHOOL JOURNAL; Dr. Ludwig Trieste, Deputy Minister of Education in Prussia, and Rev. Cyprian Pinkham, Chief Superintendent of Protestant Schools in Manitoba. Dr. Trieste has spent a couple of months in visiting the schools in the chief cities of America with a view of noting the differences in system and method to be seen here as compared with the schools of Prussia. He goes home with the conviction that so far as High Schools are concerned there is nothing for Prussia to learn in America, but that in some respects the Public Schools of this continent may be copied with advantage, even in Prussia. The High School course in Prussia is broad and exceedingly thorough. In classics it is more extensive than that of the University of Toronto.

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Rev. Mr. Pinkham will lecture in Toronto on his return, on "The Educational Outlook in Manitoba," and we will give our readers a complete statement of his views in the December JOURNAL.

REPORTS OF TEACHERS' CONVENTIONS.

We direct special attention to the report of the South Essex Teachers' Convention, which appears in another column. It is unquestionably a vast improvement on the usual form of report, and we are much indebted to Mr. Maxwell, the energetic Inspector, for setting so good an example. Our readers cannot fail to join us in our commendation and gratitude.

The reports of the proceedings at Teachers' Conventions might be made the most practical portion of an educational journal. They should embody the opinions of practical men and women all over the country, and if such reports as that of Mr. Maxwell were sent from every county, they would form a vast fund of suggestive thought. Too often our friends merely send a newspaper clipping, or worse still, a newspaper in which the Convention proceedings are reported. Frequently the report may be overlooked in the rapid examination necessarily made of the thousands of papers received at this office, and even when the clipping is received, it is impossible for one not present at the meeting to give a fair report of the proceedings.

We wish every county to have fair play and due prominence given to its educational work in the CANADA SCHOOL JOURNAL, and we earnestly request the Inspectors to send us abstracts of the papers and discussions of their Conventions. Secretaries will be able to make these extracts without much trouble, and in making them they will confer a benefit on the whole teaching community.

GOOD READING.

The necessity for literary culture is widely felt. There is scarcely a village or school section in Canada in which there are not a few people who have a longing for the establishment of a Mutual Improvement Society of some sort in their neighborhood during the winter months. This desire shows itself in the Literary Societies, Debating Clubs, and Young People's Associations started, at one time or another, in connection with every church, school-house, and temperance society throughout the land.

Unfortunately, however, these societies usually languish and die after a short existence. The moving spirit in connection with them is often the minister or the teacher, and when he removes from the district, the society is given up. Each association stands alone, receiving neither inspiration nor direction from any other; each works on its own line, without the advantage of the experience of others, and so the work done is not continuous or systematic.

To organize all such societies into one, to bind them together by the common ties of interest and emulation, to direct them in prosecuting their work from one central department, would surely be one of the grandest educational reforms of the age.

The Rev. Dr. Vincent conceived the idea of accomplishing this great work, and by founding the Chautauqua Literary and Scientific Circle he has established a simple and effective means for the accomplishment of his noble purpose. The special features which adapt it to the circumstances of all communities are :

1. Its course is broad, and the books to be read are standard works in their respective departments.

2. The course can be read with ease by those who determine to follow it, whatever may be their position.

3. While local circles for mutual aid, drill, and discussion are very desirable, they are not essential. Even one person can prosecute his reading independently.

4. Where local circles are formed, every possible variety of literary exercises may be conducted in direct connection with the prescribed course. Debates, discussions, reviews, essays, &c., may all be based upon the books recently read, and as every member will be familiar with the subject from his recent reading, all will be able to take an intelligent part in such proceedings.

The attention of teachers and all interested in the wider diffusion of intelligence through good reading, is specially directed to this great movement.

MUSIC—WHICH METHOD?

The spread of the "Tonic Sol Fa" system of teaching music in England has been undoubtedly very rapid, notwithstanding the fact that the Government of Mr. Gladstone came into power barely in time to prevent the issue of a departmental edict against its recognition by Her Majesty's Inspectors in the Public Schools. Mr. Mundella withheld the prohibitory regulation; and by far the largest number of the public schools report that the "Tonic Sol Fa" system is the one which they have adopted.

What is the reason that conservative, steady-going England has surrendered to the advocates of the new method, while in America they have not been able to obtain a single marked triumph? We believe the reason is not far to seek. The conquest in England is a glorious victory of the Teacher over the Professor of Music. The battle has not been between systems, or notations, so much as between teachers and musicians. It was natural that teachers should succeed best in teaching. There is nothing wonderful in that; it would have been simply disgraceful to the teachers had it been otherwise.

In America the case has been quite different. Music has been taught in its chief cities in the same way as other subjects. There has been no mystery thrown around it. The same principles that have been found to be correct in teaching arithmetic have been applied with equally good results in the teaching of music. A knowledge of music has been regarded as essential *on the part of the teacher*, but a more thorough knowledge has been required of the true principles of teaching. Many simple, progressive, and developing manuals have been issued for the guidance of teachers in teaching this subject. Did ever any one see such a book issued in England? There are an endless number of learned treatises on the subject, and very many valuable collections of songs, but not a single simple and systematic work on the *method of teaching* the staff notation. In this respect Mr. Curwen and the other "Tonic Sol Fa" teachers are far in advance in England.

There is probably another reason for the comparatively easy victory of the Sol-fa-ists in the "old land." There they had to attack the Hullah or "Fixed Do" system, while in America the "Movable Do" held sway, except in Ontario. In the Toronto Normal School the Hullah system was long recognized, but has been wisely abandoned during the past few years, in reality if not in name.

We hold, therefore, that the "Tonic Sol Fa," which has many excellent points, achieved success in England not so much on account of its own strength, as the weakness of those who opposed. It overcame a weak system of staff notation, presented by men who understood music well, but knew little of teaching. We hold also, and the experience of many American cities, notably Boston, Cleveland, and Cincinnati, clearly proves, that the staff notation may be easily, naturally, and most successfully taught in the public schools, if the teachers have a fair knowledge of music combined with a practical acquaintance with correct methods of teaching.

We would much prefer the "Tonic Sol Fa" system if presented by a *teacher*, to any staff notation taught by a *professor* who is not a teacher. Much teacher with little music, rather than much music with little teacher. Mr. Curwen himself said that if he had been previously acquainted with the Boston system of teaching music, he would not have considered it so necessary to found the "Tonic Sol Fa" system.

OUR COLLEGE CLUSTER.

McMaster Hall, the new Baptist Theological College, named after its generous founder, which has just been opened in Toronto, promises to take a high position among the educational institutions of Ontario. The building is magnificent in size and style, and convenient in arrangement. No pains or expense has been spared to secure the best known systems of heating and ventilation. The staff of Professors guarantees practicability and thoroughness. Professor Castle is the President of the College, and he is to be assisted by Professors McVicar and Newman. We are very glad to welcome Professor Malcolm McVicar on his return to Canada. He will be missed in the United States, where he has resided for several years. The college is to be in connection with Toronto University, where its students will complete their course in Arts, before entering upon Theology.

It is very encouraging to see so many educational institutions clustering around our national University, and in affiliation with it. Standing in the centre (and what a centre it makes), it has to the east St. Michael's College; to the south are the School of Technology and the new Episcopal Divinity School in course of erection; on the west stands Knox College; and on

the north McMaster Hall. This is a cluster of brilliants o which any country might well be proud; but is there not one diamond lacking to make it complete? In none of these named have the ladies a home. We had the honor of making a suggestion a year ago which met with much favor: that Upper Canada College be devoted to the higher education of women. We hope, however, that the changes made or to be made in that institution may make it such a provincial necessity that it may be retained for other purposes. We do not cease on this account to urge the claim of our ladies to equal privileges with our young men in obtaining a higher education than can be obtained in High Schools and Collegiate Institutes. We object to co-education, and we believe that the feeling of the country is with us in this respect; and we therefore long to see another college erected under the shadowing wing of our University, which shall be reserved for young women, and in which they may secure their highest "rights."

Even if Upper Canada College should at some time in the future be discontinued, it occupies a property that has now become so valuable that it would be very poor economy to use it for a ladies' college, as we believe it to be to continue it long in its present location as a boys' school. If the present property was disposed of there should be nearly a sufficient sum realized to erect two buildings, one for the present school and one for the college training of young women. We direct the attention of the Minister of Education and the Legislature to the subject, and hope they may speedily find a satisfactory solution for the problem.

STAND FIRM.

We strongly urge those of our subscribers who omitted the selected article "Stand Firm" in the October JOURNAL to turn back to it, and read it at least twice. Then having read it, we hope they will not fail to put in practice the principles it lays down. It furnishes in small compass a most complete refutation of all the petty charges continually made against teachers by ignorant newspaper men and more ignorant parents. It proves clearly that most of the weaknesses and abuses in our schools result directly from the indifference, the selfishness, the narrow-mindedness, and the stinginess of the great public itself. We acknowledge that there are bad teachers, but they never could continue to disgrace their profession if the public were willing to pay a fair price for good ones.

Teachers have sat still too long, and listened submissively to the abuse and contempt which has been heaped upon them. The time has come when they should "stand firm," and throw back the unjust accusations made by unreasonable persons. It is time the public was shown where the blame really rests, and no article could more clearly do so than the one we printed last month. By all means, fellow-teachers, read it, and then *commit it to memory* for future use.

One of our contemporaries, in speaking of this question, sums up the matter as follows:

"If there is one point in which school teachers are half a century behind their age, it is in the art of pushing their ideas and magnifying their vocation. They read less on their own work than any class of intelligent people; starve their professional journals; permit newspaper reporters to write them down, and "practical men" to misunderstand them, with no attempt at reply; keep away from conventions and lectures;—in short, get off into corners and work under cover; and then wonder that advanced ideas in education move slowly, the children remain untaught, and they receive starvation salaries with social neglect thrown in. Any material interest so unskilfully pushed would go to inevitable wreck; and if the cause of good education goes forward, it is largely from the inevitable momentum of truth, with small thanks to the way in which it is presented to the people by its professional and official representatives.

ENGLISH ADVERTISEMENTS.

One is often able to arrive at a correct estimate of the true condition of a country in regard to a profession or trade, by reading the advertisements of a leading paper, more readily than in any other way. The English school journals teem with advertisements from teachers wanting situations, or School Boards in need of teachers. We insert a few specimens to give their general character, and specially to show that singing, drill, and sewing are regarded as most important by both classes of advertisers. In very many cases the master advertises that his wife can take sewing. In the cases given it will be seen that the men advertise to do the teaching of this subject themselves. Why not? All boys in the junior classes in England are to take needlework in future, according to Mr. Mundella's new code, and the subject admits of progressive illustrative teaching with the aid of the blackboard, as do the other school subjects:

SCHOOLMASTER AND ORGANIST.

A Certificated, experienced, married, successful MASTER wishes for an appointment, as above. Firm disciplinarian. Singing; drill; junior Latin, Greek, French. Good organist. Good needlework and knitting, if required. Excellent references, testimonials, &c. Address (no cards), Master, Endowed School, East Tytherley, Stockbridge, Hants.

WANTED, by trained, certificated MASTER (12 years' experience), Boys' or Mixed School. Organ; drawing (D); needlework. Testimonials; references; reports. Address, A. Groom, Hayling Island, Hampshire.

A Boys' or Mixed SCHOOL desired by a 1st-class (certificated) MASTER. Excellent reports and testimonials. References; music; needle-work (if required). Thorough Churchman. Address, Schoolmaster, Brinkworth, Chippenham, Wilts.

WANTED (November 1), a certificated MASTER, for a Mixed Village School, at Scalby, 3 miles from Scarborough. Salary £50, and house, with one-third of grant, and school pence (on average amounting in all to £110). Management of organ, choir, and sewing must be undertaken. Apply to Captain M. Graham, Throxenby Hall, Scarborough.

WANTED (end September), certificated MASTER. Country, Mixed (average 94). Churchman. Relative infants and sewing. Double manual organ. Train surpliced choir. Sunday school. Salary £80 + half grant (last grant £76 11s.); house; garden. One mile from country town and station on Midland; ten from Bristol. Address, stating age, with references and copy of testimonials, Rector of Yate, Chipping Sodbury.

— Some idea of the extremely rapid growth of the world's metropolis may be formed from the fact that the School Board of that great city finds it necessary to build a hundred new schools immediately, each capable of accommodating one thousand pupils. It is estimated that new schools will have to be provided in future for more than ten thousand per year.

SCHOOL HOLIDAYS.

It is well that teachers should clearly understand that, if the length of the summer vacation in rural schools is not distinctly stated in their agreements, according to a decision of the Minister of Education the trustees can compel them to give only the shortest time which the law allows. This seems unjust. The law specifies that the holidays shall continue six weeks, but gives permission to trustees to reduce the time to four weeks. Six weeks is the rule, four the exception. Surely a fair interpretation would not subordinate the rule to the exception. If trustees fail to insert a short-holiday clause in their agreement, the law, not the exception, should prevail.

Mr. Crooks stated, when the objectionable amendment was introduced, that if it was found that only a small number took advantage of its provisions, he would propose its repeal. We are glad to know that the good sense of the people has in nearly all cases led them to follow the common sense suggestions made by the medical gentlemen in Parliament: to lengthen rather than shorten the holidays. Mr. Crooks will doubtless soon see his way to remove the provisional amendment from the statutes. He, no doubt, adopted the most practical means for silencing those radical grangers who arrogantly claimed to legislate for the country—in granting what they asked, that they might see how greedily selfish they were. Many of them were even angry because their request was granted, because they lost what might have made a first-class grievance.

—In a recent circular from the Education Department of England to the Inspectors of schools, the following instruction is given: "You will oppose the appointment of sickly precocious children as pupil teachers, and you will insist upon good health as an essential qualification for those who aspire to the teacher's office." This is a wise provision. "Make John a merchant, because he is shrewd; Tom is a clever talker and holds his own in an argument, we should make a lawyer of him; William is a thoughtful, clear-headed boy, he would make a good preacher; but poor Ned is weakly, I suppose there is nothing for it but to make him a teacher." Too long this was the reasoning of fond parents in planning for their sons. The "new profession" needs the best talent, the warmest hearts, and the healthiest bodies in the community.

—Mr. Ryerson, at present Mathematical Master in Barrie Collegiate Institute, has been appointed to the Headmastership of Orillia High School. From Mr. Ryerson's reputation as a successful and enthusiastic teacher, we can congratulate the Orillia Board upon its choice.

—Mr. Sprague, for many years Principal of Model School, Cobourg, is about to retire from the teaching profession to begin the study of medicine. Mr. Sprague will be succeeded by Mr. Kirk, of Campbellford, who has the reputation of being a most su ccessful and efficient teacher.

Mathematical Department.

SOLUTIONS TO EXAMINATION PAPERS, JULY, 1881.

FIRST CLASS, GRADE C.

ARITHMETIC.

1. The rule holds for both cases.

"The sum of the digits of any number divided by 9 leaves the same remainder as the number itself divided by 9."

See H. Smith's Arithmetic, page 34.

The sums of the lines, taken either vertically or horizontally, must equal the sum total. But the sum of each line contains 9 a certain number of times with a remainder. And the sum of all these remainders must contain 9 a certain number of times with a remainder. Now it is evident that the sum of all the multiples of 9 in the lines must equal the multiple of 9 in the sum total, and the final remainder equal to the remainder from the sum total. The usual exceptions will of course apply—transposition of figures, etc.

2. $\frac{1}{2}(\frac{5}{4}\text{ cost})+\frac{2}{5}(\frac{9}{8}\text{ cost})+\frac{1}{10}(\frac{1}{2}\text{ cost})=\$1125.$

$\therefore$ cost$=\$1000.$

3. Let x be the radius of the piston in the second case. We may then state the question thus:—

If 4 pumps	6
With 3ft. stroke	4
And $\pi(3)^2$ piston area	πx^2
Raise 6^3 cubic ft. water	3^3
In 1 hour	$\frac{5}{8}$
Using 100% of the work	90%.

Hence, by proportion, we have the statement:—

$$\left.\begin{array}{r} 6:\ 4 \\ 4:\ 3 \\ 216:27 \\ 5:\ 8 \\ 9:10 \end{array}\right\} :: 3^2:x^2.$$

$$\therefore x^2=\frac{9\times4\times3\times27\times8\times10}{6\times4\times216\times5\times9}=1 \qquad \therefore x=1 \text{ inch.}$$

The analytical solution is obvious.

4. (P. W. of \$90 due in 40 days) + (P. W. of \$90 due in 101 days) $=\frac{98}{100}$ of \$180,

or (P. W. of \$1 due in 40 days)+(P. W. of \$1 due in 101 days) $=\frac{196}{100}$.

Let r = rate per annum $\therefore \frac{r}{100}$=rate per \$.

$\therefore \frac{40r}{36500}$ and $\frac{101r}{36500}$ are the interests of \$1 for 40 and 101 dys.

Hence,

$\frac{40r}{36500+40r}$ and $\frac{101r}{36500+101r}$ are the discts. of \$1 for 40 and 101 dys.

$\frac{36500}{36500+40r}$ and $\frac{36500}{36500+101r}$ are the P. W's of \$1 for 40 and 101 dys.

See H. Smith's Arithmetic, Can. Ed. App. page 334.

Hence we have,

$$36500\left\{\frac{1}{36500+40r}+\frac{1}{36500+101r}\right\}=\frac{196}{100}$$

i.e., $2\times36500^2+36500\times141r=\frac{196}{100}\{36500^2+36500\times141r+4040r^2\}$

$$(\tfrac{196}{100}\times4040)r^2+(\tfrac{96}{100}\times36500\times141)r-\tfrac{4}{100}(36500^2)=0,$$

or, $\left(\frac{49\times101}{3650}\right)r^2+(6\times141)r-9125=0$

$$\therefore r=10{\cdot}58+$$

5. Apparent assets$=\frac{4}{5}$ liabilities. He loses \$4000 of the apparent assets. Hence,

$$(\tfrac{4}{5}\text{ liabilities }-\$4000)\tfrac{96}{100}=\tfrac{60}{100}\text{ liabilities,}$$

i.e., liabilities $=\$22857\frac{1}{7}$.

The apparent assets $=\$18285\frac{5}{7}$, which is less than \$20000, and the given data are, therefore, incompatible.

6. A loses interest on \$210 from May 11th to June 11th.

B has the use of \$210 for 1 month, and \$205 for 4 months = use of \$1030 for 1 month = $\$5\frac{15}{6}$ for 1 year.

He pays back in all $\$5+\$210+\$(\frac{5}{12}\times\frac{7}{100}\times 210)=\$\frac{1769}{8}=\$221\frac{1}{8}$.
Hence the money costs him $\$11\frac{1}{8}$.

$$\therefore\ \frac{515}{6}\times\frac{r}{100}=\frac{89}{8},\text{ or rate paid by B}=12{\cdot}96\%.$$

C pays $205 cash, and in 5 months gets back $\$216\frac{1}{8}$,
i.e., $\$11\frac{1}{8}$ for interest.

$$205\times\frac{5r}{1200}=\frac{89}{8}$$
$$\therefore\ r=13\tfrac{1}{41}\%.$$

7. If we take 3% half-yearly to be the same as 6% yearly, amount of debt at end of 10th year$=\$40000(1{\cdot}03)^{20}$.

Let S = sum annually added to sinking fund. Suppose the money borrowed in January and the first taxes collected in December, so that the first payment would only bear interest for 9 years.

Amount of sinking fund at end of 10th year

$$=S(1{\cdot}03^{18}+1{\cdot}03^{16}+1{\cdot}03^{14}+\text{ etc.},+1{\cdot}03^2+1)$$
$$=S\left(\frac{1{\cdot}03^{20}-1}{1{\cdot}03^2-1}\right).\ \text{These two amounts must be equal.}$$

$$\therefore\ S=\$40000\,(1{\cdot}03)^{20}\times\left(\frac{1{\cdot}03^2-1}{1{\cdot}03^{20}-1}\right)$$

$$\therefore\ \text{Rate on the dollar}=\frac{1{\cdot}03^{20}}{25}\times\frac{1{\cdot}03^2-1}{1{\cdot}03^{20}-1}.$$

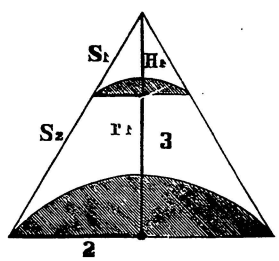
8. Area$=\sqrt{\frac{15}{2}\times\frac{7}{2}\times\frac{5}{2}\times\frac{3}{2}}=15\sqrt{7}$.

9. Box $=64$ cubic feet.
Iron $=\frac{32}{3}\pi$ cubic feet.
Water$=64-\frac{32}{3}\pi$ cubic feet $=\frac{32}{3}(6-\pi)$.
Wt. of iron $=\frac{32}{3}\pi\times 7{\cdot}79$.
" water $=\frac{32}{3}(6-\pi)\times 1$,

$$\text{or}\ \frac{\text{iron}}{\text{water}}=\frac{\pi\times 7{\cdot}79}{6-\pi}=\frac{8{\cdot}569}{1},\ \text{when}\ \pi=\tfrac{22}{7}.$$

Surface $=4\pi r^3$.

10.



Take H, H_1 and 3 as the perpendicular heights of the whole cone and its upper and lower segments.

Take S, S_1 and S_2 as the slant heights of the whole cone and its upper and lower segments.

Take r_1 and 2 as the radii of the upper and lower circular sections.

Then since the vertical angle $=60^\circ$ we get

$H=2\sqrt{3}$, $H_1=2\sqrt{3}-3$, $r_1=2-\sqrt{3}$, $S_1=4-2\sqrt{3}$, $S_2=2\sqrt{3}$.

$$\therefore\ \text{Curved surface}=\pi(8\sqrt{3}-6)$$
$$\text{Area of ends}=\pi(11-4\sqrt{3})$$
$$\therefore\ \text{Surface of frustum}=\pi(4\sqrt{3}+5)$$
$$(b)\ \text{Length of curve}=2\pi r=4\pi.$$

Contributions.

A FEW WORDS TO TEACHERS AND LEARNERS.

BY ROBERT POTTS, M.A., CAMBRIDGE, ENGLAND.

A quaint old teacher has remarked "that when a learner is at first rightly and thoroughly grounded, the rest of the work goes on with readiness, with ease, with speed, and with assurance. When he is ill-grounded, all falls out contrarywise; much labor and much patience of the master, and much diligence and industry of the scholar, will hardly be able to rescue him from the mischievous consequences of previous ill-grounding. So powerful is ill habit when it hath once got hold, and so difficult to eradicate, that it is much harder to unteach the wrong than to teach the right.".

Another eminent teacher of modern times has stated the cause of his success in these words: "It has ever been with me a principle that even rudimental teaching must be thorough, and must be founded upon the essential character of the mind, as accretive; and that when once it is rightly proceeded upon, the teaching of any science will not remain quiescent, but will advance to completion and success."

The present state of teaching the Elementary Principles of the Sciences of Number and Space is not satisfactory, as will appear in the following extracts from the Report of the Cambridge Board of the University Examinations, and from the twenty-second Report of the Syndicate appointed to conduct the Examination of Students not members of the University.

The Board of Examinations issued their Report of the Previous Examination of the Freshmen in March, 1880. With respect to the subjects of Elementary Arithmetic, Algebra, and Geometry (which are supposed to be acquired at School) the following remarks appear in the Report:

"In the June Examination *seven* per cent. of the candidates failed altogether and *twenty-six* per cent. only just passed in the subject of Arithmetic. Questions on Compound Interest, Discount, and Stocks, as well as those on Simplification of Decimals, were answered by very few.

"In the December Examination, *four* per cent. failed altogether and *ten* per cent. only just passed. Questions in Stocks and Discount were answered incorrectly by a large number of the candidates, their work showing ignorance of the meaning of the questions.

"In the December Examination in Euclid, *one-quarter* of the candidates did not write out more than half of the bookwork correctly. Many of the candidates had apparently prepared the subjects from text-books in which the order of Euclid is not preserved. By this means great confusion is introduced.

"In June, *four-ninths* of the candidates failed in Algebra; in December, *one-quarter*. Questions in Ratio, Proportion, and Variation were not well done, and in many cases the candidates did not appear to have read these portions of the subject."

Of the Additional Subjects the Report states:—

"In Algebra undisguised pieces of bookwork were in general written out correctly, and an easy Problem of a common type was solved by most of the candidates. The Progressions were treated without much thought, the formulæ being often applied at random."

The Regulations for the Previous Examination, revised in 1849, required the candidates to be arranged in two classes:—

"The *first class*, consisting of those candidates who have passed their examination with credit; the *second*, of those to whom the Examiners have only not refused their certificate of approval."

The facts stated, and the words employed in the Report, suggest a very unsatisfactory state of the acquirements and of the intellectual habits of a large class of Freshmen in their first year of residence at Cambridge.

In the year 1879 the names of 6,738 students were entered for the Cambridge Local Examinations, and forty-one per cent. of those who attended failed to pass the examination. There were 3,600 students examined in Pure Mathematics, including Elementary Arithmetic, Algebra, and Geometry. On the results of the Examination of the Junior Students the Report of the Examiners remarks:—

In Arithmetic,

"There were fewer cases of confused and bad methods, fewer gross errors in principle; and the papers were worked in better form and more neatly. But, as compared with last year, improvement is not manifest."

In Algebra,

"Although the failures were more numerous this year than last, a fair percentage of the whole number of candidates acquitted themselves creditably."

In Euclid,

"Several lost credit by quoting axioms other than Euclid's, and by inattention to Euclid's order, for instance, proving I. 27 by I. 32.

More riders than last year were sent up, but still too few of the candidates attempted them."

Of the Examination of the Senior Students the Examiners state:

In Arithmetic,

"The work both of boys and girls showed an improvement on that of last year, as regards both style and accuracy. There were but few candidates, however, of any great merit. Nearly half the whole number of boys and more than half the girls were but little above the minimum standard required for passing. The girls in many cases used heavy and cumbrous modes of working."

In Algebra,

"The Algebra was far from satisfactory. More than half the whole number of candidates failed to pass, and very many could have had no reasonable expectation of passing. The bookwork questions were written out at a very great length, but in most cases the important points were slurred over or altogether omitted."

In Euclid,

"The propositions of Euclid were on the whole creditably written out, but only the easier riders were solved. The percentage of failures in Euclid was higher in the case of the girls than in that of the boys."

It is more than probable that one of the causes of the unsatisfactory state of elementary knowledge of these subjects is the simple fact that too many subjects of study are prematurely forced on minds of ordinary capacity. In the case of inert and dull minds, no sound and exact knowledge is acquired; and in the case of active and precocious minds, a loose smattering of many subjects is crammed into the memory which have not passed through the understanding. Whatever may be forced into the memory in this way is only held in solution until it has served its purpose, and then it is precipitated.

The injudicious solicitude of some teachers to develope prematurely the mental faculties of youth will only result in furnishing illustrations of the consequences which flow from a disobedience to the laws of nature. The teacher ought not to forget that the organs of the brain equally with those of the body have their predetermined periods of growth and development. Any attempts to interfere with these cannot be made with impunity. How seldom do those who in youth have been nurtured in the forcing hot-bed exhibit in after life superior intellectual powers. They more commonly fall beneath than exceed the average in talent. But even if the mental capacity be enlarged, it is at the expense of the corporeal energies. These are not displayed in the strongly knit and active limbs, in the well-formed and robust frame. The brain may have grown, but it is almost invariably accompanied by a feeble and imperfectly developed body, which, in general, prematurely breaks up. If nature has given a superiority of mind, the less interference there is with the laws which regulate its development the more ample and gratifying will be the results. If she has withheld these conditions which are necessary for the manifestation of talent, it is not only in vain to endeavour to create what she has denied, but injudicious and fraught with danger. The vegetable kingdom illustrates the justice of these views.

In the use of ordinary language it is implied that there exists some sort of analogy between the bodily and mental faculties. As the mysterious processes of digestion and assimilation are necessary for the healthy development of the body, so also, unless the food of the mind be inwardly digested, it cannot contribute to the like development of the intellectual powers. The reception of knowledge into the mind has been described under the comparison of good seed sown in good soil or bad soil; and it is written that "men do not gather grapes of thorns nor figs from thistles."

As, therefore, the physical development of the organs and functions of the body take place gradually according to the order of fixed laws; it would appear that the development of the mind must, in a similar way, be subject to the same order. The mental acquirements suitable for youth cannot be put off with advantage till the approach of manhood. The consequences of neglect in early mental training will in time become as manifest as the lack of proper food and care in the healthy growth of the body. As the body for food, so the mind for knowledge has its hungerings and thirstings. The craving appetite in both cases implies a process of assimilation. As the mental food assimilated will affect the character of the mind itself, only wholesome mental food should be supplied, in the right order and quantity suitable for healthy and vigorous intellectual growth.

The study of the exact sciences is one of the most effective means of cultivating and developing the reason. Geometry is the Science of Space, and Arithmetic with Algebra in its character of Universal Arithmetic is the Science of Number. As all our knowledge of the external world must be subject to the conditions of Space and Number, the elementary portions of these sciences are from their nature better adapted than any other to form the habit of fixity of attention, of distinctness in the conception of ideas, and of precision in expression. The language, like the subjects, is fixed and definite, and does not admit of the same ambiguity and uncertainty as the language employed on other subjects. The reasonings are always conclusive and exact, expressed in terms whose meaning cannot change from the sense in which they have been defined. In one of his recent charges, the present Lord Chief Justice made a passing remark to the effect that Euclid's Elements were a mental training second to none.

It may be remarked that persons of the highest acquirements in any science do not always become the best teachers. Experience has shown that such persons may be utterly incompetent to adapt their knowledge to the capacity of minds of a lower character than their own. If a teacher has not skill to make the subject of his instruction interesting, and tact to adapt his knowledge to minds of different capacities, he does not possess one of the essential requisites of a teacher. It is a delusion to imagine that correct habits of thinking can be created, or exact knowledge acquired, by the mere passive attendance on lectures, however excellent. Class-teaching may be useful or useless, or even worse than useless. There are many youthful minds so constituted that they must be taught individually, if ever they are to be able to draw inductions from facts, or comprehend principles and apply them with success. In dealing with the misapprehensions and mistakes of learners, the teacher should observe how the learner was led into error, and by suitable questions lead him to perceive his mistake and to make the correction for himself. By this method the mind of the learner is brought into active exercise, and he will be less likely to repeat the mistake than if the correction were received passively from the teacher. If the learner exhibit a listless inattention or a positive dislike to the subject of study, the efforts of the most judicious teacher are in vain.

It may also be remarked that implicit obedience in the learner and the love of knowledge are also necessary conditions of improvement. A sense of duty rather than a desire of surpassing others constitutes the right motive of the learner. If a morbid appetite for praise or an eager strife for pre-eminence be encouraged, it may grow, and at length become the ruling passion, and create envy and hatred of every successful rival, and generate a feeling of discontent which may become a fatal obstruction to all mental and moral improvement.

These few words to teachers and learners may be concluded with the expressive words of the late Dr. Whewell:—

"The object of a liberal education is to develope the whole mental system of man—to make his speculative inferences coincide with his practical convictions—to enable him to render a reason for the belief that is in him; and not to leave him in the condition of Solomon's Sluggard, who is wiser in his own conceit than seven men that *can* render a reason."

THE TONIC SOL-FA VS. STAFF NOTATION.

To the Editor of the Journal:

Mr. Seward seems to have much more regard for the old staff notation than he had when we saw him at Albany. He gave the impression there that Tonic Sol-fa could do pretty much everything; he went so far in that direction that some of his friends said that they "hoped Mr. Seward would not claim that Beethoven symphonies, and music of a similar character, could be played from it." He now says:

"The Tonic Sol-fa may be supposed to approach that venerable member of the musical community, the Staff, with language something like the following: 'I have for you the most profound respect. You have come down to us from antiquity, and you hold in your embrace the musical treasures of the world. But you need an interpreter. A large proportion of the human race cannot understand you, and to them these precious treasures are hidden away and lost. I will take the masses of the people and instruct them. I will lead them up these difficult heights by a gentler grade, and will gradually raise them to the level of your noblest thoughts.'"

This is all very beautiful, but the picture is not complete until we imagine this "venerable member of the musical community" looking down and weeping over this poor little fellow's ignorance and injustice in heaping upon this "venerable member" the responsibility of the failure on the part of the musical profession in trying to make of human beings mechanical musical instruments, with which to *find* these "precious treasures." Mr. Seward says, "Mr. Holt will try it sometime,—then his testimony will be as strong as the strongest." I am aware that Tonic Sol-fa is as contagious as the measles, and may become epidemic for a time in some localities in this country. If I had been as much "exposed" ten years ago, I might have "caught" it. I am older now, and *hope* to "escape," for I have observed that it goes much "harder" with those who do not have it when "young." But, joking aside, I shall teach the Tonic Sol-fa *notation* just as soon as Mr. Seward, or any other teacher, convinces me that I can be of greater service to my pupils by so doing. Will Mr. Seward take the same position with regard to the Staff notation, and drop the Tonic Sol-fa notation when he is convinced that equally good results can be obtained by going directly to the Staff?

Now, if Mr. Seward will take a copy of his exercise, published in my article, I will direct him how to mark it, and he will have a *facsimile* of the one from which the girls sang.

Whether or not there is positive pitch in nature, we will not spend time in discussing; but that there is a property in musical sounds ascertained by scientific and mathematical demonstration, known and *accepted* as standard, absolute or positive pitch (yet varying in different countries), upon the principle of which all musical instruments are constructed, and upon the representation of which all musical instruments are played, I hardly think Mr. Seward will deny.

Neither can he claim that this principle has any representation whatever to the eye, in the Tonic Sol-fa notation. The household in which there is not some kind of a musical instrument is the *very rare exception*. Now, shall the instruction in music in our public schools be given so as to save *much time* and *expense* to the large majority who will wish to play some kind of a musical instrument, or shall all this be lost? I can do no better than to quote from my article in the *Transcript* (Boston) of June 18, upon this point:

"I asked a class of girls the other day how many had pianos at home, and thirty-seven hands were raised. Suppose these thirty-seven girls wished to learn to play the piano. It will cost at least two hundred dollars more for the instruction of each of these thirty-seven girls upon the piano if they practise singing all their school-life from the Tonic Sol-fa notation than it would if they had learned from the Staff notation, and had become perfectly familiar with all the different keys and characters used. When these things are considered, it becomes a matter of great importance whether or not music teachers find the true, natural method of teaching singing with our Staff notation, and unite upon it."

Mr. Seward reprints the first line in the exercise in music to show that I am either *very ignorant* with regard to chromatic tones, or I have been guilty of telling an untruth. Now, if Mr. Seward is not accustomed to *think* more carefully in *methods of teaching* than he *reads*, it is no wonder that he is going around through the Tonic Sol-fa notation to get to that of the Staff. I said that this exercise can be *represented* in the Tonic *Sol-fa notation* as simple scale intervals having only *one* chromatic tone. Now, if it is *impossible* to use these notes before and after the chromatic tones as "bridge notes," then I am wrong, and can only plead ignorance of that wonderful invention, the Tonic Sol-fa notation. I think the wonder and "astonishment" will be that Mr. Seward should have made such a *blunder* as he "*certainly did.*"

There is no chance for any discussion between Mr. Seward and myself upon what the musical profession have failed to do with the Staff notation, or what has been accomplished with the Tonic Sol-fa notation. I should admit all that he claims, and probably more. I have never taught singing on any other *principle* than the Tonic Sol-fa. I agree with Mr. Curwen in *methods of teaching* in every particular except *one*. Mr. Seward says, "One teacher cannot lift up the whole world." That is doubtless very true; still I shall do what I can, and I confidently expect to have Mr. Seward to help me one of these days. Of one thing I am confident, and that is, that no "portion of the human race," whether in or "outside of Boston," will need the Tonic Sol-fa notation when teachers learn, first, *how to teach;* second, how to name what has been taught; and third, how to represent with the Staff notation what is already known.

Now, Mr. Seward is cordially invited to visit me in my school next June, to be convinced of this fact. He shall have the privilege of writing upon the blackboard any exercise he pleases, commencing in *C*, and going anywhere he likes in any of the nine keys through *E* and *A* flat,—the exercise to be no more difficult than the one given his pupils; and we will try and sing them without figures above or below the notes; and while I will not promise that they shall be sung without any mistakes, he shall have the privilege and satisfaction of laughing at all of our failures.

Mr. Seward says the "average mind of the *masses* cannot understand the Staff notation." The difficulty is *not there*, Mr. Seward. The trouble is in the "average mind" of the teachers who are attempting to teach music, who have not studied or qualified themselves for the *profession of teaching.*

Boston, Mass., 1881. H. E. HOLT.

General Information.

PIGMY ELEPHANTS.—It is commonly supposed that all elephants are huge creatures, and though, as a rule, they are an enormous size, there is one species which is very small. This kind is found in the Malay peninsula, and some specimens have been procured which are only from twenty-eight to thirty-six inches in height, with a thick coat of bristly hair or wool. Two of these pigmy elephants were recently exhibited in New York. They are described as playful and inoffensive, holding out their tiny trunks for strangers to touch—a practice of which they were particularly fond. They used to keep up a swaying movement, sometimes from side to side, sometimes backward and forward. One of them would occasionally take hold of a visitor's hand, gently curl his trunk around it, carry it carefully to his mouth, and then "trumpet" with great glee.—*Little Folks' Magazine.*

HUMAN TREES.—A most ingenious device to escape capture is that shown by the Bheel robbers of India. It often happens that a band of these robbers are pursued by mounted Englishmen, and unable to reach the jungle, find themselves about to be overtaken upon one of those open plains which have been cleared by fire, the only shelter in sight being the blackened trunks or leafless branches of small trees that perished in the flames. For men so skilled in posturing this is shelter enough. Quickly divesting themselves of their scanty clothing, they scatter it with their plunder in small pieces over the plain, covering them with their round shields, so that they have the appearance of lumps of earth, and attract no attention. This accomplished they snatch up a few sticks, throw their body into a contorted position, and stand or crouch immovable until their unsuspicious enemies have galloped by. When all is safe they quickly pick up their spoil and proceed on their way. The Rev. J. D. Woods gives an interesting account of these marvellous mimics. We quote the following :—"Before the English had become used to these manœuvres, a very ludicrous incident occurred. An officer with a party of horse was chasing a small body of Bheel robbers, and was fast overtaking them. Suddenly the robbers ran behind a rock or some such obstacle, which hid them for a moment, and when the soldiers came up the men had mysteriously disappeared. After an unavailing search, the officer ordered his men to dismount beside a clump of scorched and withered trees ; and the day being very hot, he took off his helmet and hung it on a branch by which he was standing. The branch in question turned out to be the leg of a Bheel, who burst into a scream of laughter, and flung the astonished officer to the ground. The clump of scorched trees suddenly became metamorphosed into men, and the whole party dispersed in different directions before the Englishmen could recover from their surprise, carrying with them the officer's helmet by way of trophy."

VOLCANOES.—"What is a volcano ?" This is a familiar question, often addressed to us in our youth, which "Catechisms of Universal Knowledge" and similar school manuals have taught us to reply to in some such terms as the following : "A volcano is a burning mountain, from the summit of which issue smoke and flame." This description, says Professor Judd, is not merely incomplete and inadequate as a whole, but each individual proposition of which it is made up is grossly inadequate and, what is worse, perversely misleading. In the first place, the action which takes place at volcanoes is not "burning," or combustion, and bears, indeed, no relation whatever to that well-known process. Nor are volcanoes necessarily "mountains" at all ; essentially, they are just the reverse—namely, holes in the earth's crust, or outer portion, by means of which a communication is kept up between the surface and the interior of our globe. When mountains do exist at centers of volcanic activity, they are simply the heaps of materials thrown out of these holes, and must, therefore, be regarded not as the causes but as the consequences of volcanic action. Neither does this action always take place at the "summits" of volcanic mountains when such exist, for eruptions occur quite as frequently on their sides or at their base. That, too, which popular fancy regards as "smoke" is really condensing steam or watery vapor, and the supposed raging "flames" are nothing more than the glowing light of a mass of molten material reflected from these vapor-clouds. The name of volcano has been borrowed from the mountain Vulcano, in the Lipari Islands, where the ancients believed that Hesphæstus, or Vulcan, had his forge. Volcanic phenomena have been at all times regarded with a superstitious awe, which has resulted in the generation of such myths as the one just mentioned, or of that in which Etna was said to have been formed by the mountains under which an angry god had buried the rebellious Typhon. These stories changed their form, but not their essence, under a Christian dispensation, and Vulcano became regarded as the place of punishment of the Arian Emperor Theodosius, and Etna as that of Anne Boleyn, who had sinned by perverting the faith of King Henry VIII.—*From "Volcanoes, their Action and Distribution," in Popular Science Monthly for November.*

The average weight of an adult man is 140 $\frac{3}{8}$ lbs. ; the average weight of a skeleton is about one-tenth of the weight of the person. The average weight of a man's brain is $3\frac{1}{2}$ lbs. ; of a woman's $2\frac{11}{16}$ lbs. A man breathes about 18 pints of air in a minute, and 4.08 per cent. of the gases he respires is carbonic acid.

The number of letters which passed through the mails of the whole world during the year of 1877 exceeded 4,000,000,000. The same year over 110,000,000 telegraph messages were sent.

COMETS.—The people of old beheld with great terror those blazing wonders we call comets. As late as the year 1456, when the Turks achieved the conquest of Constantinople while a comet was amazing the inhabitants of the earth, we read that the Christians round about the fallen city prayed to be delivered from "the Turks, the evil one, and the comet." All is different now. We may feel, it is true, awe-struck, as we behold what is so luminous and of such enormous magnitude ; but the torment of fear has gone, and this deliverance we owe to the steady work of astronomers and other scientific men, who have counted and named these fiery travellers of the sky ; and, moreover, have written their histories as far as their histories can be known to the dwellers on our planet. They have, besides, studied the nature of their light and the ways in which they move ; in other words, their orbits, as they flash within our sight, and then disappear for centuries, rushing far beyond the reach of mortal eye, till again they are with us as our own to gaze upon, for weeks or months together. Comets were occasionally hailed as harbingers of good ; probably, however, our forefathers trembled as they rejoiced. A comet that appeared in 1811 was believed, by those who were not better instructed, to have killed wasps, blinded the flies, and to have brought with it a most abundant harvest ; moreover, to have ripened the grapes, rendering them so sweet and plentiful that the wines of that autumn, being proudly called "the comet wines," were long treasured as almost priceless. Astronomers tell us now that comets do nothing for the harvests or the vintage ; indeed, what their work is in the grand plan of nature is as yet a mystery. The word "comet" comes from the Greek *kome*, hair, and means "a hairy star," which name might have arisen from the appearance of these heavenly bodies. We generally see a central light, a dark ring, and a plume or fringe of fainter light which is called the tail, the nucleus or central light with the ring being called the head ; thus we have something like fiery hair encircling a shining head—"a hairy star." Since the first year of the Christian era more than six hundred comets have been recorded. Comets travel swiftly, dashing and glittering through space at an incalculable rate. A comet of 1680 swept around the sun at a million of miles an hour ; it went so near to that enormous fiery globe that Sir Isaac Newton reckoned when it was nearest it must have been blazed upon with a heat two thousand times greater than that of red-hot iron. This comet, which appeared in 1680, is still rushing onwards, making its grand journey, which it has travelled over again and again for we know not how long ; it will come to us again, it is reckoned, in the year 2255. It is very sad that astronomers rarely live to see their prophecies fulfilled. Certain as they feel that they have reckoned correctly, they are too often compelled to leave to others the satisfaction of proving the truth of their astronomical calculations.—*Churchman's Companion.*

INDIA RUBBER.—The process of gathering India Rubber along the Amazon, in South America, is described by a traveller to be in many respects similar to that of gathering sugar from the maple groves in Vermont. More method is observed by the men, women, and children, who are engaged in collecting the rubber, than could be expected of such rude and uncultivated people. On arriving at the encampment each one has a certain number of trees allotted to him, which he bores with an auger. At the mouth of the auger hole he inserts a hollow reed or tube, through which the gum can flow, and at the end of this tube he places a turtle shell, or a large clam shell, to hold the gum as it flows from the tree. This gum is a liquid substance, white as milk but somewhat thicker. A large trough, dug out of a log, is placed near the centre of the encampment, and when the trees have all been tapped, a man is appointed to go the rounds and watch these shells, and as soon as they are full he takes them to the trough and empties them. Toward sunset a fire is built near the trough, and upon it is thrown the fruit of a certain kind of palm, which gives forth a dense smoke. A paddle like that used in a canoe, only smaller, is dipped into the milk, turned over once or twice, then withdrawn and held in the smoke, which hardens and blackens it at the same time. This process is repeated till the gum forms an inch to an inch and a half in thickness on the paddle, when a knife is passed along one edge of the paddle and the mass is removed. It is then ready to be shipped. These different coatings or layers which have been formed on the paddle by repeated dippings may be easily separated. In the vicinity of the Amazon there are vast groves of rubber trees, reaching out in all directions.

Examination Questions.

JULY EXAMINATIONS, 1881.

FIRST CLASS TEACHERS.—Grades A and B.

(Continued from last month.)

ELEMENTARY GEOMETRICAL OPTICS.

Time—Two Hours.

Examiner—J. C. Glashan.

Note—*Questions marked with Roman Numerals are to be answered on separate sheets, folded separately from the rest, though enclosed in the same envelope.*

1. Find the geometrical focus of a pencil after direct refraction at a plane surface.

A point within a solid cube of glass is viewed directly through each of the faces. Show that the six apparent positions of the point from an octahedron whose volume is $\frac{1}{6}\left(1-\frac{1}{\mu}\right)^3$ of the cube, where μ is the refractive index from air into the glass.

2. Show how to determine the apparent position of a luminous point under water to an eye above the water.

To a person standing in water of uniform depth the bottom appears to approach the surface in all directions from him. Give a drawing showing clearly how to determine the shape of the bottom.

3. Determine the deviation of a ray of light reflected through a prism.

Show that if the ray be composed of different kinds of light, with various refractive indices, they will be separated in passing through the prism, selecting for convenience the case in which the angles of incidence and emergence are small, and show that in this case the deviation is independent of the angle of incidence.

4. Find the distance from the centre of a sphere of the geometrical forms of a pencil of rays after direct refraction at the surface.

If a pencil of parallel rays be incident directly on a solid sphere, be turned back by reflection at the opposite face, and after a second refraction pass from the sphere, it can never finally deviate from the centre, the foci being supposed all within the sphere.

5. Find the geometrical focus of a pencil after direct refraction through a thin lens.

Determine the kind of lenses suitable for long and short sighted persons.

Will the difficulties of seeing be increased or diminished to a short-sighted person under water? Explain clearly.

6. Explain how vision takes place through an opera glass, tracing the course of a pencil of rays through it; and explain fully how the eye is assisted by such an instrument.

Determine the magnifying power, having given the focal length of each lens.

VII. Describe the construction of a spectroscope, and show by diagram the relative position of its optical parts.

Describe the different kinds of spectra.

VIII. Explain the method of determining the illuminating power of a source of light by means of Bunsen's photometer.

ANALYTICAL GEOMETRY.

Time—Two Hours and a Half.

Examiner—J. C. Glashan.

1. Find the angle between two lines whose equations are given.

If a, b be the differences of the intercepts of the two lines on the axes of x and y respectively, and θ, the angle between the lines, be constant, then $\frac{x}{a}-\frac{y}{b}=\cot\theta$ is the locus of their point of intersection.

2. The equation $f(x, y)=0$ represents a curve, and cannot represent any part of a plane.

Interpret the equations

$$f(\theta)=0,\ \frac{\sin\theta}{\rho}=0,\ \rho\sin n\theta=0,$$
$$x^6-y^6=0,\ x^2-4xy+5y^2=0.$$

3. Find the conditions to which the constants in the equation $ax^2+by^2+2cxy+2dx+2ey+f=0$ are subject in order that the axes may be

(1.) A tangent and normal to the curve.
(2.) Two tangents.
(3.) A tangent and line from point of contact through the centre.
(4.) Two lines through the centre.

4. The equation to a conic is $4y^2+3xy+4x^2-8x-8y=0$; find its centre and the magnitudes and positions of its principal axes.

5. Determine the curve represented by the equations $x=a\sec\alpha$, $y=b\tan\alpha$, where x, y, α are variables, and interpret geometrically the angle α.

If a tangent be drawn from any point on the curve to the circle on its transverse axis, its length is $ae\tan\alpha$.

6. The equation to the tangent to the ellipse $\frac{x^2}{a^2}+\frac{y^2}{b^2}=1$ at the point (x', y') is $\frac{xx'}{a^2}+\frac{yy'}{b^2}=1$.

By transferring the origin to the point (2, 3), find the tangent to the curve $3x^2-xy+2y^2-6x-4y=0$ at this point.

7. A is a point without a conic, and a chord is drawn cutting the conic in B and C: find the locus of the intersection of tangents at B and C, as ABC revolves about A.

The angle subtended at the focus by any chord is bisected by the line joining the focus to its pole.

8. Show that the polar equation to a conic section is $\frac{l}{\rho}=1+e\cos\theta$; also that the polar equation to its tangent at the point $\left(\alpha, \frac{l}{1+e\cos\alpha}\right)$ is $\frac{l}{\rho}=\cos(\theta-\alpha)+e\cos\theta$.

9. In an ellipse if P, Q be the ends of conjugate diameters

$$CP^2+CQ^2=a^2+b^2;$$

and if they be the ends of lines drawn from the centre at right angles to each other $\frac{1}{CP^2}+\frac{1}{CQ^2}=\frac{1}{a^2}+\frac{1}{b^2}$.

DYNAMICS.

Time—Two Hours and a Half.

Examiner—Alfred Baker, M.A.

1. Given an acceleration and velocity with certain units of space and time, show how to express them when the units of space and time are changed.

If the unit of acceleration be the acceleration due to gravity, and the unit of velocity be that of a point which describes 1 foot in 32 seconds, find the units of space and time.

2. Obtain the formula $s=ut+\frac{1}{2}ft^2$.

If a particle move from rest under the influence of two given uniform accelerations, making an angle θ with one another, obtain expressions for the position of the particle and for the resultant velocity at the end of any time.

How would you require to proceed to determine the space described?

3. When a particle is moving in a plane curve obtain an expression for the normal acceleration.

A 3lb. weight is attached to one end of a string 4 ft. long, and is swung round in a horizontal circle, the string being held at the other end. If one revolution be made each second, find in pounds the tension of the string.

4. Explain the illustrations of the laws of motion furnished by Atwood's machine.

If A and B be the weights ($B>A$), and if as A rises it receives at a platform an additional weight $\frac{B^2-A^2}{A}$, and as it descends deposits it again on the platform, and so continues to oscillate above and below the platform, receiving and depositing the weight, the whole time above the platform before the system is reduced to rest is equal to the whole time below it.

5. The time of descent down any chord of a vertical circle from the highest point is constant.

If A be the highest point of the circle, and B the lowest, and C any other point on the circle, and friction be supposed to act, the time of descent from A to C is always greater than that from C to B, provided AC be less than CB.

6. Determine the amount of kinetic energy lost in the following

cases, explaining the nature of the conversion of energy that takes place:

(1.) A body projected vertically upwards after motion has continued a given time.

(2.) Two partially elastic balls of given elasticity and masses moving in the same straight line with given velocities and colliding.

(3.) An inelastic ball impinging on a *fixed* wall.

7. When a particle is projected in any direction not vertical its path is a parabola.

A certain standard of cartridge causes a ball shot from a rifle held in a horizontal position at height a above the surface of a lake to strike the water at a distance b from a point vertically below the muzzle of the rifle. With the same rifle and cartridge, what is the farthest a ball can be sent, atmospheric resistance being neglected.

8. A particle is constrained to move on a vertical cycloid vertex downwards. Find the time of descent from any point to the vertex.

Find the time of oscillation of the simple pendulum, and explain the utility of your result in determining an important physical constant.

ENGLISH LITERATURE.

MILTON, POPE, AND JOHNSON.

TIME—TWO HOURS AND A HALF.

Examiner—J. M. BUCHAN.

1. "We have not yet found them all, Lords and Commons, nor ever shall doe, till her Master's second coming; he shall bring together every joynt and member, and shall mould them into an immortall feature of loveliness and perfection. Suffer not these licencing prohibitions to stand at every place of opportunity forbidding and disturbing them that continue seeking, that continue to do our obsequies to the torn body of our martyr'd Saint. We boast our light; but if we look not wisely on the Sun itself, it smites us into darkness. Who can discern those planets that are oft *Combust*, and those stars of brightest magnitude that rise and set with the Sun, untill the opposite motion of their orbs bring them to such a place in the firmament, where they may be seen evning or morning?"

(i.) *We have not yet found them all.* All what?

(ii.) Explain the meaning of 'feature' and '*Combust.*'

(iii.) Who is meant by 'our martyr'd Saint?'

2. Write a synopsis of the argument of the Areopagitica.

3. "Nevertheless, the eighteenth century accomplished for us an immense literary progress, and even its shortcomings in poetry were an instrument to that progress and served it."—*Matthew Arnold.*

Fully explain this statement.

4. Illustrate, by quotations, the reasons which Pope gives in his preface for writing this essay in prose instead of verse.

5. "See the sole bliss heav'n could on all bestow!
Which who but feels can taste, but thinks can know:
Yet poor with fortune, and with learning blind,
The bad must miss, the good, untaught, will find; 330
Slave to no sect, who takes no private road,
But looks through nature up to nature's God;
Pursues that chain which links th' immense design,
Joins heav'n and earth, and mortal and divine;
Sees that no being any bliss can know, 335
But touches some above, and some below;
Learns from this union of the rising whole,
The first, last purpose of the human soul;
And knows where faith, law, morals, all began,
All end, in love of God, and love of man. 340
For him alone, hope leads from goal to goal,
And opens still, and opens on his soul;
Till lengthen'd on to faith, and unconfin'd,
It pours the bliss that fills up all the mind.
He sees, why nature plants in man alone 345
Hope of known bliss, and faith in bliss unknown:
(Nature, whose dictates to no other kind
Are giv'n in vain, but what they seek they find.)
Wise is her present; she connects in this
His greatest virtue with his greatest bliss; 350
At once his own bright prospect to be blest,
And strongest motive to assist the rest."

—*Pope—Essay on Man, Fourth Epistle—Ll. 327–352.*

(i.) What is 'the sole bliss heav'n could on all bestow?'

(ii.) Explain the construction of 'slave' and 'who' in l. 331.

(iii.) Write a note on 'that chain,' etc., l. 333.

(iv.) What is 'the first, last purpose of the human soul?'

(v.) State the argument suggested in the three hundred and forty-fifth and following lines.

6. Discuss the question whether Pope is a poet.

ENGLISH LANGUAGE AND HISTORY OF ENGLISH LITERATURE.

TIME—TWO HOURS AND A HALF.

Examiner—J. M. BUCHAN, M.A.

1. Illustrate the statement that the English is tending to become an uninflected language.

2. Reproduce Earle's view of syntax as flat, flexional, or phrasal.

3. Distinguish metre, rhyme, rhythm. Quote an example of ballad metre. Explain what is meant by rhyme royal?

4. Indicate the sound of a in secondary, and of o in territory.

5. Sketch the history of English literature in the fourteenth century.

6. Tell what you know about the translations of the Bible made before the reign of James I.

CHAUCER.

TIME—TWO HOURS AND A HALF.

Examiner—S. ARTHUR MARLING, M.A.

1. Give as full an account as you can of the condition of the English language at the time of Chaucer's birth, and show in what respects his writings affected the language.

2. Describe the education which Chaucer had for his work as a poet; and say what characteristics of his have most impressed you, introducing illustrative quotations where you can.

3. What traces of the decline of feudalism do we discern in Chaucer?

4. Write the following passage in modern prose; compare the English of it with Chaucer's, and notice any "tendencies" in language you discern therein:—

"Engelond ys a wel god lond, ich wene of eche lond best,
Yset in the ende of the world, as al in the West.
The see goth hym al a boute, he stont as an yle.
Here fon heo durre* the lasse doute, but it be thorw gyle
Of fol of the selue lond, as me hath y seye wyle."

—*Robert of Gloucester's Chronicle.*

* need.

5. Explain the force of the prefix or suffix in 'forpyned,' 'yteyd,' 'tappestere,' 'wantown,' 'biloved,' 'inne'; analyze the forms 'raughte,' 'ferthing,' 'thilke,' 'whilom,' 'nas,' 'couthe,' 'altherbest'; derive and explain 'soverayn,' 'felawe,' 'yeman,' 'orlogge,' 'damoysele,' 'vernicle,' 'cope.'

6. Render in clear prose the following passages, with brief marginal notes where required:

a. peyned hire to countrefete cheere
Of court, and ben estatlich of manere.

b. Lat Austyn have his swynk to him reserved.

c. In alle the ordres foure is noon that can
So moche of daliaunce and fair langage.

d. That ye ne rette it nat my vileinye.

e. For curs wol slee right as assoiling saveth.

f. 'my lief is faren on londe.'

g. 'Ne him that is agast of every tool.'

7. Explain the expressions 'fer eny thinge,' 'atte parvys,' 'soth to sayn,' 'for no cost,' 'his wit bisette,' 'for the nones,' 'yaf the syke man his boote,' 'the blisful martir quyte you your meede!' 'bulte it to the bren,' 'his viage for to lette.'

8. Reproduce, as fully as you can, Chaucer's portrait of 'the Persoun.'

9. What species of metre became common in English verse in the 12th century? Cite any specimen of it that you may remember, and give its laws.

PUPIL-TEACHER EXAMINATION PAPERS, AUGUST, 1881.

CANDIDATES.

ARITHMETIC.

MALES.

1. Find the value of 7 lbs. 6 oz. 7 drms. 2 scru. 7 grs. at £1 per oz.
2. What is the total cost of 15,378 articles at £7 19*s.* 8¼*d.* each.
3. If £22 10*s.* will purchase 3 cwt. 24 lbs. of coffee, what quantity should be procurable for £75?
4. The rent of a farm of 42 ac. 1 rd. is £158 8*s.* 9*d.*; what could 39 ac. 2 rds. 20 poles be rented for at the same rate?
5. Two rabbits are worth 1*s.* 5*d.*, three hares 10*s.* 7½*d.*; how many score of rabbits would be equal in value to 13½ dozen hares?

FEMALES.

1. Make out the following bill:—

   21 lbs. of candles at 7½*d.* per lb.
   45 lbs. of sugar at 4½*d.* per lb.
   25½ lbs. of plums at 6½*d.* per lb.
   2¼ lbs. of tea at 2*d.* per oz.
   10 lbs. 14 oz. of rice at 4*d.* per lb.

2. Find the cost of 7,845 articles at £26 14*s.* 8¾*d.* each.
3. 7,985$\frac{6}{7}$ at £8 19*s.* 4½*d.* each.
4. What is the value of 90 qrs. 0 bush. 1 pk. at £7 11*s.* 4d. per qr.?

GRAMMAR.

"Down sank the disappearing band;
Each warrior vanished where he stood,
In broom or bracken, heath or wood:
It seemed as if their mother earth
Had swallowed up her warlike birth."—SCOTT.

Parse all the verbs, adjectives, and words used as adjectives, in the above.

2. Show how the possessive case of nouns is formed, both in the singular and plural numbers, and give examples.
3. Give the past tense of the indicative mood of the verbs *do, dare, can, shall.*

GEOGRAPHY.

Answer *two* questions.

1. Trace as minutely as you can the course of the River Severn; showing as you proceed how it supplies you with examples of the meanings of each of these terms—viz.:

   Affluent, City, Confluence, Estuary, Mountain, Plain, Source, Tide, Valley, Watershed.

   N.B.—These terms are here arranged alphabetically. You are to mention each example, and explain each term, *in its proper order.*
2. Describe the course of a sailing vessel from Belfast to Queenstown. Or, *if you can*, draw a map of the coast-line.
3. Say what you know about Inverness, Skye, Stafford, the Solway Firth, Scarborough, Yarmouth, St. Albans, and Maidstone.

PUPIL-TEACHERS AT END OF FIRST YEAR.

ARITHMETIC.

MALES.

1. Compare the values of £·775, and 7·75 shillings, and reduce their difference to the decimal of their sum.
2. What vulgar fraction of a guinea is £$\frac{9}{32}$, and what vulgar fraction of a mile is 82 yards 1 foot 6 inches?
3. What sum must be added to $\frac{7}{16}$ of 1⅓ guineas to make that fraction equal to $\frac{9}{10}$ of £3¾?
4. If a bar of gold weighing 5·05 lbs. be worth £243, what is the value of 3 oz. of the metal? Give answer in decimals and in £ *s. d.*
5. What is the total amount of a rate of £·3822916 in the pound on a property valued at £9,518 a year?

FEMALES.

1. If a bankrupt owed £7,241 5s., and paid 13s. 6d. in the pound, what was the total loss to the creditors?
2. How many horses can be bought for £744 8s. 8d., if seventeen horses cost £790 19s. 2½d.?
3. If 21 men earn £52 10s. in eight days of 10 hours each, how much will 49 men earn in 10 days of 5 hours each?
4. If 12 men eat bread to the value of £11 12s. 3d. in 28 days, when wheat is 52s. per quarter, how many men will eat bread to the value of £17 8s. 4½d. in 21 days, when wheat is 39s. per quarter.

GRAMMAR.

1. "The old Sussex tortoise that I have mentioned to you so often is become my property; I dug it out of its winter dormitory in March last, when it was enough awakened to express its resentments by hissing; and packing it in a box with earth, carried it eighty miles in post chaises."—*White's Natural History of Selborne.*

   Point out and parse all the pronouns, prepositions, and participles in the above.
2. Is it ever allowable to place the preposition after, instead of before, the word it governs? Illustrate your answer by examples.
3. The possessive cases of some pronouns are used as adjectives; give examples of this.

GEOGRAPHY.

Answer either Q. 1 or Q. 3, not both.

1. Describe, as fully as you can, the basin of the Po, showing how it supplies you with examples of the use of the following terms, viz.:—Affluent, City, Confluence, Delta, Gulf, Lake, Mountain, Plain, Source, Watershed.

   N.B.—These terms are hero arranged alphabetically. You are to mention each in its proper order.
2. Draw a full map of Sicily, and another of Corsica and Sardinia. Insert the lines of latitude and longitude.
3. Say what you know about Astrakhan, Archangel, the Arctic Circle, North Cape, Nova Zembla, the Gulf of Finland, Gothland, Memel, and Kiel.

HISTORY.

1. Write out a list of names and dates of our sovereigns from 1066 to 1154.
2. What sovereigns reigned between Edward IV. and Elizabeth? Give their dates.
3. Give the name and hereditary title of the first king of the House of Hanover, with the date of his accession to the English throne. What relation is our Queen to him?

PUPIL-TEACHERS AT END OF SECOND YEAR.

ARITHMETIC.

MALES.

1. What percentage of a ton is (*a*) 1 cwt., (*b*) 1 qr., (*c*) 1 lb., (*d*) 1 oz.? (Not more than 4 places of decimals.)
2. If £43,542$\frac{6}{7}$ produce at simple interest in 3½ years £6,667 10s., what is the rate per cent. per annum?
3. In a school of 250 children all examined, 70 fail in arithmetic, 50 in writing, and 20 in reading; what is the percentage of *passes* in each subject?
4. A sum of 30s. is divided among four boys in the proportion of 35 per cent. to A, 30 per cent. to B, 23.3 per cent. to C, and 50 per cent. of what C receives to D. How much money does each boy receive?
5. In what time will 29 half-sovereigns amount to 29 half-guineas at 2¾ per cent. per annum simple interest?

FEMALES.

1. A regiment, returning from foreign service, has only $\frac{11}{27}$ of its original number of men; it has lost $\frac{2}{9}$ of its original number in battle, ⅓ by sickness, and 36 have deserted. What was its original number?
2. What is the amount of a bill for ¾ cwt. of sugar at 4½d. a lb., 1½ cwt. of rice at 4¾d. a lb. 70 lbs. of currants at £2 6s. 8d. a cwt., and 25 of lbs. tea, 1½ cwt. of it costing £28 10s. 6d.?

3. Simplify $3\frac{5}{8}$ of $\frac{5}{7}$ of $\frac{32}{301}$ of 49 of $1\frac{14}{29}$.

4. If it take $1\frac{1}{4}$ oz. of shot for the charge of a gun, how many shots can a boy have for 1 shilling's worth of shot at $2\frac{1}{4}$d. a lb. How much shot will be left in his pouch after the last shot?

GRAMMAR.

1. "It is the first mild day of March,
Each minute sweeter than before;
The red breast sings from the tall larch
That stands beside our door.
My sister! ('tis a wish of mine)
Now that our morning meal is done,
Make haste, your morning tasks *resign*,
Come forth, and feel the sun."—WORDSWORTH.

(a) How many sentences are there in the above? Assign each to the class to which it belongs.

(b) Parse the words in italics.

2. What are the corresponding conjunctions? Give a list of them.

GEOGRAPHY.

1. Say what you know about Astrakhan, Archangel, North Cape, the Arctic Circle, Nova Zembla, the Bay of Bengal, Point de Galle, Auckland, Dunedin, Stewart Island.

2. Draw a map of the Gulf of St. Lawrence, with Nova Scotia, New Brunswick, and Newfoundland.

One Hour allowed for Females.

Two and a Half Hours allowed for Males.

HISTORY.

1. When and how did William I. die? Who inherited his dominions?

2. What celebrated archbishop was assassinated in 1170? Describe the causes of that event.

3. Who ascended the throne in 1216? How came a French army to be in England at that time? How was it disposed of?

EUCLID.

(All generally understood abbreviations for words may be used; but symbols of operations, such as —, +, ×, are not admissible.)

1. Upon the same base, and on the same side of it, there cannot be two triangles that have their sides which are terminated in one extremity of the base, equal to one another, and likewise those which are terminated in the other extremity.

2. The angles which one straight line makes with another upon one side of it are either two right angles, or are together equal to two right angles.

The lines bisecting an internal and the adjacent external angle of a triangle are at right angles to each other.

PUPIL-TEACHERS AT END OF THIRD YEAR.

ARITHMETIC.

MALES.

1. What principal put out for $6\frac{1}{2}$ years at $4\frac{1}{2}$ per cent. simple interest will amount to £1,002 19s. $7\frac{1}{5}$d.?

2. At what price are the Funds, when I can buy £500 worth of Stock for £401 13s. 4d.?

3. If a tradesman gains 2s. 9d. on an article which he sells for 11s., what is his gain per cent. on his outlay in procuring the article?

4. What percentage is *(a)* $\frac{3}{4}$d. of 3 half-crowns? *(b)* 3 poles of 3 acres? *(c)* $3\frac{3}{4}$ days of a year (of 365 days)?

5. A market woman in the morning sells her butter at 15 per cent. profit; in the afternoon the price of butter rises 1d. per lb., and she then makes 20 per cent. profit. What did the butter cost her to buy?

FEMALES.

1. Divide £870 between A, B, and C, so that ·75 of C's share shall = 5 of A's, or = $\dot{\cdot}6$ of B's.

2. Multiply 3·456 by ·425, and divide 2·472 by 3·4.

3. A schoolmaster divided his scholars, consisting of 221 boys and 143 girls, into the largest possible equal classes, so that each class of boys should number the same as each class of girls. Find the number of classes.

4. Express $9\frac{3}{4}$d. as the decimal (1) of £1, (2) of £1,000.

GRAMMAR.

1. "Picture galleries should be the workingman's paradise, to which he goes to refresh his eyes and heart with beautiful shapes and sweet coloring, when they are wearied with dull bricks and mortar and the ugly, colorless things which fill the town, the workshop, and the factory."—*Kingsley.*

(a) Point out the extensions of the predicate that occur in the above.

(b) Analyze the adverbial sentence.

(c) What kind of subordinate sentences are connected with principal sentences by relative pronouns? Give examples from the above and from other passages.

2. Parse each word in the following:
"Make me, that nothing have, with nothing grieved."

3. With what Latin prepositions are the following words compounded: accept, irrigate, comfort? (N.B.—There is no Latin preposition ac, ir, or com.)

GEOGRAPHY.

1. Draw a full map of Africa, *to the east of the 30th meridian of east longitude*—that is, to the east of Alexandria on the north, and Port Natal on the south.

2. Describe fully the great mountain chains of Asia, and name the principal rivers rising in each, with the direction of their courses.

One Hour allowed for Females.

Two and a Half Hours allowed for Males.

HISTORY.

1. Who were the parents of Edward VI.? Two of his uncles were beheaded; give some account of them.

2. Describe the government of this country between 1649 and 1660.

3. What was the last battle at which an English king appeared on the field?

EUCLID.

(All generally understood abbreviations for words may be used; but symbols of operations, such as —, +, ×, are not admissible.)

1. If a side of any triangle be produced, the exterior angle is equal to the two interior and opposite angles; and the three interior angles of every triangle are together equal to two right angles.

In a right angled triangle, the angle contained by the line bisecting the right angle, and the line drawn perpendicular to the hypothenuse, is equal to half the difference of the two acute angles of the triangle.

2. In any right angled triangle, the square which is described upon the side subtending the right angle is equal to the squares described upon the sides which contain the right angle.

ALGEBRA.

1. Divide $x^{15}+x^{10}$ by x^3+y^2, and $x^4-\frac{19}{6}x^2y^2+\frac{1}{3}xy^3+\frac{1}{6}y^4$ by $x^2+2xy+\frac{1}{3}y^2$.

2. Take $\dfrac{4x-3}{25(x^2+1)}$ from $\dfrac{4x+13}{25(x+2)^2}$.

3. Solve the equations—

(1) $\dfrac{x}{a}+\dfrac{x}{b}=c.$

(2) $\frac{1}{2}(x-\frac{51}{26})-\frac{2}{13}(1-3x)=x-\frac{1}{39}\left(5x-\dfrac{1-\cdot 3x}{\cdot 4}\right).$

PUPIL-TEACHERS AT END OF FOURTH YEAR.

ARITHMETIC.

MALES.

1. On selling 4 dozen cucumbers for 13s. 0d., a profit was made equal to three-tenths of the money laid out in buying them. What ought the price charged per cucumber to the customer to have been in order that 60 per cent. should be gained?

2. What is meant by "discount"? What is the discount on £1,250., due 9 months hence, at $5\frac{1}{2}$ per cent.?

3. In 3 years, at 4 per cent., what sum would £1,080. amount to at compound interest?

4. If by selling an article for 8*s.* 3*d.* I lose $17\frac{1}{2}$ per cent., what should I have sold it for to gain 40 per cent.?

5. Explain the following quotation from the *Times* of November 29:—"Consols opened this morning at a fresh decline of an eighth, and ultimately experienced a further fall. The first bargains were at $89\frac{3}{8}$ to $\frac{1}{2}$, and the last at $89\frac{1}{4}$ to $\frac{3}{8}$. For the 7th of December the final quotation was $87\frac{7}{8}$ to 88 ex. div."

FEMALES.

1. A house which cost £1,500 lets for £65 a year; the outgoings for insurance, &c., amount to $1\frac{1}{4}$ per cent. on its cost; what rate of interest does it pay?

2. An innkeeper uses a quart measure which is too small by ·375 of a pint; of how much will he defraud his customers in selling a butt of beer if he charges $2\frac{1}{2}$d. for a pint?

3. The sales of a bookseller amount to £25,000; one-fourth of the sales are made at a profit of 25 per cent., seven-tenths at a profit of $16\frac{2}{3}$ per cent., and the remainder at a loss of 25 per cent. Find the cost of the stock sold.

4. Three cowkeepers hire a pasture for £35 7s. 6d. for 26 weeks; during the time A puts 7 cows in it for 13 weeks, B 14 cows for 9 weeks, and C 3 cows for 22 weeks. How should they divide the rent?

GRAMMAR.

1. "*Be useful where* thou livest, that they may
Both want and wish thy pleasing presence still.
Kindness, good parts, great places, are the way
To compass this. *Find out men's wants* and will,
And meet them there. All worldly joys go less
To the one joy of doing kindnesses."
—GEORGE HERBERT, 1633.

(*a*) Write out the meaning of the above in your own words.
(*b*) Parse the words in italics.
(*c*) Analyze the first two lines.
(*d*) How is the word *that* used in the first line? Give examples of the different ways in which the word *that* is employed.

2. Mention some of the classes of words in our language which are generally of Latin origin. Give examples.

GEOGRAPHY.

1. Draw a full map of Africa, to the east of the 30th meridian of east longitude—that is, to the east of Alexandria on the north, and of Port Natal on the south.

2. Describe fully the great mountain chains of America, and trace the courses of the principal rivers that rise in them.

One Hour allowed for Females.

Two and a Half Hours allowed for Males.

HISTORY.

1. How were the Jews treated under Richard I.? Explain the feeling towards them.

2. By what authority were the Stuarts restored in 1660, and William and Mary placed on the throne in 1689?

3. Mention the chief military achievements of this country from 1704 to 1709, and explain the cause of the war of the Spanish succession.

EUCLID.

(The only abbreviations admitted for "the square on AB" is "sq. on AB," and for "the rectangle contained by AB and CD," "rect. AB, CD.")

1. If the sides of any hexagon be produced to meet, the angles formed by these lines are altogether equal to four right angles.

2. If a straight line be divided into two equal parts, and also into two unequal parts; the rectangle contained by the unequal parts, together with the square on the line between the points of section, is equal to the square on half the line.

3. If a straight line be bisected, and produced to any point, the square on the whole line thus produced, and the square on the part of it produced, are together double of the square on half the line bisected, and of the square on the line made up of the half and the part produced.

ALGEBRA.

1. Reduce $\left(\frac{x^2-9x+20}{x^2-6x}\right)\cdot\left(\frac{x^2-13x+42}{x^2-5x}\right)$ to the simplest form.

2. Solve the equations:—

(1) $\begin{cases} ax=by \\ x+y=c \end{cases}$

(2) $12x^2=x+1740$.

3. Find two numbers in the proportion of 8 : 5 the product of which is 360.

MENSURATION.

1. The paving of a semi-circular alcove with marble at 2s. 6d. a foot came to £10; what was the length of the semi-circular arc?

2. Find the area of a regular hexagon whose side is 15 feet.

Practical Department.

DON'T FRET.

Do you get angry? Do you fret and fume when things don't go to suit you? Henry J. Raymond, with his wide and varied experience, said he had never seen anything in the world worth fretting or getting angry about. He is a weak man who frets, or allows his better common-sense to be overcome by anger. He is the strong man who always holds the helm of his passions, and steers his vessel whithersoever he will. "Patience is strength; impatience is weakness." How many of us are strong? How many teachers stand in their school-rooms fretting at the faults of their pupils, instead of being a stalwart of dignity and power—to lead into better paths. Life is too short to fret it away, joy and peace are too valuable to be sacrificed on such an inferior Moloch. Don't fret. Don't get angry. Rise above it. Stand!

"'Stand like an anvil!' when the strokes
Of stalwart men fall fierce and fast.
Storms but more deeply root the oak,
Whose brawny arms embrace the blast."

Don't say you can't, and wear the garb of manhood. If you are unequal to the contest, place yourself where you belong: with the brute force of the world. God gave these elements of wrong to us that we might overcome and be strong. There could be no strength without effort; and no effort if there were nothing to contend for. Therefore if you have these elements in your nature in a pre-eminent degree, thank God, and control them, and then you grow strong perforce. One of the real joys of life is to overcome its weak places. We all have them, and if we bridge them over by judicious management and an inflexible will, we may make a safe passage for ourselves and all whom we attempt to lead. Years ago, when we came near sapping the best powers of our mind by fretting, a lady friend asked us why we fretted so much, and what good it accomplished? We excused ourselves on the plea of poor health and a multiplicity of cares. We finally agreed to make the effort, and every time we began to fret our friend was to sing. We found ourselves not so peevish as we supposed, and that a little effort would overcome a bad fault. If you are a fretter, get some one to sing for you. If you get angry and lack control of yourself, sing "Old Hundred" every time you have a paroxysm, and we will guarantee a cure.—*Mich. Moderator.*

THE JOY OF WORK.

By Alfred Holbrook, National Normal School, Lebanon, O., May, 1880.

1. *Work* is the blighting curse pronounced on Adam's posterity, and this is to hold through all time.

2. From eight to sixteen hours' time of most men are passed in work, while many women toil some hours longer, their husbands and sons resting or roving the meantime.

3. The primeval curse is thus crushing and wearing away the greater part of human existence.

4. Work is ever attended with care and anxiety, often with disappointment and sometimes with despair.

5. Any alleviation during the accomplishment of such a destiny is seized with eagerness.

6. To live without work is the acme of human desire; power and wealth have for their chief end exemption from the general doom, work.

7. To save children from the weight which has crushed or oppressed the parents is the chief end of human affection, an admitted apology for the father's avarice and a mother's exhausting toil.

8. The young man who is obliged to support himself is excluded from the best circles, so called, of society.

9. The young lady whose father is unable to support her in idleness is too often spiteful at father and fate, and feels still more degraded if dire necessity drives her to teaching or other self-sustaining effort or remunerative employment.

10. The grand aggregation of midnight artists, including gamblers, burglars, and blacklegs generally, are only exercising their right to live without work. "The world owes me a living, and I'm bound to have it," is the common reasoning of this class of artists, not so different in practice from that of many who work by daylight.

11. The most powerful argument of the betrayer is not unfrequently, "You will not have to work any more, I will take care of that."

12. The main object of an education is, too often, to get above the working classes and live in comparative ease.

13. The noisy partisan of either creed is only establishing his claim to the fattest office with the least work and the safest stealings.

14. The boast of not a few preachers would gladly be, "I only preach one sermon a week, with no pastoral work, and get my $2,000 a year."

15. The boast of too many teachers *is*, "I only work three or four hours a day, and get my salary of $1,200." If there is a disposition to exaggerate in the direction of indolence, it is generally accepted as praiseworthy aspiration in the line of good fortune.

16. And who in any condition of life is not hoping for that good time when he can enjoy his leisure with dignity, in other words a free and easy idleness, with sense gratification or intellectual enjoyment uninterrupted by toil or care?

In the face of all these foregone conclusions drawn from so many sources, I wish to state my text. It is:—That work is the most blessed boon conferred on man—his only salvation.

"In the sweat of thy brow shalt thou eat bread," was pronounced by the same voice that declared to the "old serpent," the grand seducer to all laziness, "it shall bruise thy head, but thou shalt bruise his heel."

The harmonious activity of every faculty is the highest state of happiness.

God made the world, and made it right. It is almost universally assumed that the devil has defeated the plan from the first, by bringing on man the curse of work, and all we have to do is to outwit the devil and escape the curse, if possible. Nothing pleases his infernal majesty better than this assumption, unless it is its accomplishment. Nothing else has given him the political and priestly control of the world thus far, and nothing else will continue it.

I now propose to show that work can be made, and of right ought to be considered, not only necessary and desirable, but enjoyable; nay, the chief joy; and that the individual who succeeds in making it so need not wait a thousand years and more for the joys of heaven. Heaven is already begun within him and around him.

1. That mechanic or artist who is so absorbed in his daily work that all sensuous gratification falls back into its true place, that of necessary help to the prosecution of his vocation, is a success, wherever and whenever he may be found.

2. That merchant who, amid the sharp competition that meets him on every side, and who by adroit planning and generous enterprise, outstrips all rivalry, is infinitely happier in contriving and developing his schemes than in his retirement.

3. That young farmer who is diligent in business, earnest in self-improvement, and hopeful in his aspirations, has a *world* of safety and blessing within his possession compared with that young lordling who has a fortune at his control, and is even in the qualms of satiety grasping after new pleasures with still unsatisfied desire.

4. And that teacher who is so thoroughly interested in his work and enthusiastic in his plans that his constant enquiry is, "What more can I do for my school? how can I arouse every pupil to eager and persistent effort?" is happy above any of his fellows, especially that drone who plumes himself on enjoying a good easy time at the public expense.

Ought it not to be true that obedience to God's laws is fuller of all joy and profit than disobedience? That law is work; else, this isn't God's world. But permit me to show how one lazy teacher defeats himself, loses self-respect, makes his calling a burden to himself and a curse to his pupils. The thing is so common I hardly need give the recital.

Some control is necessary in a school; this teacher assumes that fear is the cheapest and surest means of securing it. Hence threats and the rod are his ever recurring resort. The corrective increases the evil. The teacher is hated and despised. He hates in return, and, with his pupils, welcomes any relief or release from the pandemonium which he has created about him. How slowly the hours move! How heavily the days drag along! Will the term ever come to a close? How joyfully all parties greet a holiday! His assertions, "I put them through; I just make them study; I bring them square up; I keep them in their place;" given with such self-assurance, only reveals the true character of the school and of the teacher. Simple laziness and brute force on one side; evasion, deceit, meanness, and smothered hate on the other, where there should be interest, ingenuity, enterprise, ambition, inspiration, and increasing delight in the common good—the regular duties of the school. Why, several years back, in Warren county, even the idea that children could be inspired with any true love of school, or genuine love of school work, was scouted and scoffed at by an examiner and his abettors. He lost his position by his insolence and treachery in his own district, as well as by his singular management of the County Institute funds, just as might have been expected.

Again, that *Superintendent* whose common method of discharging his duties is in visiting the rooms of subordinate teachers, taking classes out of their hands and showing them how to teach, or in taking classes to his own room for examination, and thus finding occasion to censure the management and disparage the work of the teacher; who watches for instances of dereliction; whose regular

business it is to report tardiness and curtail the wages of his subordinates, is for the most part a man whose love of work has its limits and peculiarities, and whose devotion to his teachers' interests is not always directed towards the plainest looking nor the most worthy.

Such a man, by political wire-working, by flattering certain directors, or by pandering to the low tastes of the rabble, holds his place, to the disgust and weariness of his subordinate teachers, with the contempt of his more intelligent constituents, to the great and life-long detriment of the children ; but worst of all, perhaps, to the lowering of the public school system in the estimation of its firmest supporters.

But how can the *country* school teacher learn to love his work and enjoy it ? Rather, I would ask, how can he infuse into his pupils a love of their school, and so inspire them with the spirit of industry and cheerfulness that no place will be as attractive as the school-room, and no recreation will be as heartily engaged in as the regular school work ? Why, in the first place, just as an artist becomes absorbed in *his* work. The successful painter works for higher aims than money. Every hour is grudged that is not given to the easel. Social and convivial occasions are shunned as a delusion and a snare ; indeed, all interest and affection is for the time withdrawn from every other object. Can such an individual fail of success, or of enjoyment in the hope of that success which sooner or later is sure to be attained ? His only happy or even comfortable hours are when he is at work.

But what is that artist, working on mute canvas or dead marble, compared with that artist who works on living personality, responsive intellect and grateful affections ? Where can devotion—all absorbing devotion—be the most easily aroused and most persistently bestowed ? Where can the delights of successful contrivance be most fully enjoyed ? Where can the enterprise and ambition of a true and living heart find a nobler and sweeter field for their exercise than among his pupils, his best friends ?

Can beauty of expression be developed on the canvas, or beauty of form drawn from the marble ? How much more charming that energy of character and beauty of soul developed by the devoted teacher through *his* artistic skill on his plastic, responsive material !

Frobel's idea of turning work into play is not to be limited to children of any age, nor to children at all. It is the true ideal of a *life* work. To make work more inviting and absorbing than any form of recreation or of unproductive sense enjoyment is the secret of a true life, a happy life. Give me no other. But how shall the country district school teacher find increasing satisfaction in *his* work ?

1. By *realizing* that earnest, interested work is a blessing and not a curse, in other words, that there is more fun in work than in play.
2. By adequately fitting himself for his work before he begins it.
3. By believing that human nature will ever respond to real devotion to its interests, and that especially is this true of children and youth.
4. By believing in himself as honestly and hopefully devoted to the improvement and pleasure of his pupils.
5. By making his school a field for ingenuity and enterprise, for scheming and planning to increase its usefulness.
6. By availing himself of every opportunity which the profession affords to improve his school and his own plans.
7. By procuring a library and apparatus as rapidly as his means permit.
8. Nor is it unworthy of a good teacher to desire to stand first in the respect and affection of his pupils, and to use all appropriate means to secure this end.
9. Neither is it unbecoming a noble professional zeal to aim towards being, and being considered and spoken of, as "the best teacher we ever had in our school," and thus found to be necessary when called for by some neighboring district with the offer of increased wages.
10. None of these considerations interfere in the least with that beautiful ideal for which the worthy teacher will ever work, and in the pursuit of which he, more than any other artist, can truly say, "I work for eternity."

Now, with such aims, beliefs and motives, let us consider for a moment the immediate ways and means of making school work interesting and exciting.

1. By such special preparation and contrivance on the part of the teacher as will enable him to make every recitation and exercise so interesting that the children will be eager for the next.
2. By feeling that a recitation is nothing, and worse than nothing, unless it is prepared for by diligent and interested study on the part of the pupils.
3. By giving such preliminary drill in every recitation for the study of the next lesson as can not fail to excite a lively curiosity and an eager effort in the preparation for the next recitation.

It is asked how can recitations be made so interesting ? and how can preliminary drills be conducted so as to be continuously exciting and effective ? I answer, this will depend on the interest of the teacher in his work, on his native aptitude to teach, on his ingenuity in ever devising special methods adapted to each exercise, but much can be gained by all teachers in reading educational books and periodicals, by mutual discussion between teachers as they meet, and by sustaining teachers' associations ; neighborhood, town, and county associations. The training in Normal Schools should be directed more to these ends than any other, *how to make the recitation interesting;* for if the recitation really awakens enthusiastic work, no other government will be required, and all school discipline and culture may thus be reached.

4. But the school work can not be made interesting and kept so, without giving due credit for faithful effort on the part of pupils, however much or little they may accomplish. Nor can the teacher succeed on this plan by imposing study as a punishment, and keeping pupils after school for discipline.
5. Again, school work can be made interesting by arranging for the study of all subjects, except, perhaps, geography, in writing ; and by the pupils following outlines in their study, rather than getting their lessons by simply memorizing the text, or learning answers to printed questions.
6. But every other plan may be enhanced by having every pupil in every class, every day engaged in preparing something for the close of the term, for the School Exposition, How is this to be done so as not to interfere with the regular school work ? Why, it must be done so as to increase the interest in the regular work, and to arouse the more zeal in the mastery of every lesson. It is a part of good normal training to enable the pupil teachers to use this means of excitement properly, but any ingenious and energetic teacher who accepts the idea will find it working splendidly, with comparatively little extra thought and study on his part.
7. In addition to the work done in the regular classes, for the school exposition, a considerable amount and variety of subjects can be prepared in connection with the general exercises, such as botanical specimens, collections of minerals and fossils, and possibly something in taxidermy, also in the construction of simpler forms of apparatus, the use and application of which the student may be permitted to give at the exposition ; also drawings of apparatus may be prepared to illustrate principles in natural philosophy, or in physiology, or in physical geography. Also simple experiments in chemistry can be prepared and performed, illustrating the principles of heat and chemical affinity.
8. In carrying out such plans, and others which the ingenuity of every teacher will suggest as appropriate to his own school, surely every hour will be occupied, and every day will be found too short for the work he is so anxious to accomplish.

To such a teacher will work be a burden and a curse ? Rather will he not be surprised to find how fast time flies, and can he fail to be delighted with the results of his school work, even in that work itself ! I have thus far directed your attention to the *work* which the faithful *teacher* may so richly enjoy in his regular professional duties.

I now wish to say that such a teacher can not fail to inspire his *pupils* with the same enthusiasm in *their* daily work.

The plans and methods I have here proposed for the teacher, are no mere theory, no experiment. They are an accomplished fact with thousands within my knowledge. The results of such school management, carried out in a sensible, earnest, and loving spirit, have changed multitudes of schools from prisons to homes, from hells to heavens, from a regular training in deceit and treachery

and meanness unspeakable, to the establishing of good, honest working habits of faith, industry and thrift, and such habits as are carried into successful business, into a worthy and noble life.

And are not such habits infinitely more desirable than any acquirements in arithmetic or grammar, in geography or history, in physics or metaphysics, or in all together, without them? But instead of interfering with such acquisitions, with faithful study, and vigorous accuracy in any school or college drill, such measures, pursued in the right spirit, only make study more earnest and critical, and the attainment of a thorough mastery of all subjects immeasurably easier and more certain.

I have taken occasion to refer to superintendents as not always securing the love and respect of their subordinates. A word more on school superintendency.

Will not the same principles, if accepted and applied by a superintendent, accomplish similar results? Can he not win his associate teachers, not so much to a personal respect and confidence in himself, as to an earnest and cheerful devotion, each to her own work, and to the interest and happiness of her pupils? This can never be accomplished by policing subordinates, by catching the teacher off her guard, by censuring her in the presence of her pupils, by examining her pupils captiously; by disparaging her efforts, by implying or avowing her inefficiency, by treating her as an underling, by reporting or by threatening to report her to the board. It will not be claimed that any or all of these methods of superintending ever made efficient teachers, inspired them with a love of their work, or impressed them with any very profound respect for their profession or their superintendent.

Nor would the simple omission of these and all like points of contact with subordinate teachers necessarily secure their good will or increase their efficiency.

But first, last, and always, faithful, earnest, continuous *work* on the part of the superintendent, whether he teach any or not, would lay a good foundation for a mutual understanding between him and his teachers, so that at least there would be no occasion for their saying, "We do all the work, but he gets all the pay."

There is unquestionably a very plain course to be pursued by which the superintendent can increase the working power of his teachers many-fold, and at the same time win their gratitude and esteem.

I shall not detain you now, however, with a lecture on school superintendency, but I am fully satisfied that there is a much larger proportion of failures among those who hold positions as superintendent than among teachers at large.

Normal schools are quite as much needed for training superintendents as for teachers who are to take places under them.

And what, now, of the foregone conclusion, that almost universally admitted assumption, that work is a burden and a curse, a degradation and a crime?

Teachers, let those of us who have realized the joys and blessings of enthusiastic work in our chosen profession, strive to inspire our pupils with the same enthusiasm which has given us the victory over ourselves, the world, the flesh, and the devil.

The hallowed fervour will thus extend itself and win from sloth, sensuality, and vice multitudes of the coming generation, who, from the influence of their home circles, their social gatherings, their street contaminations, and even their church relations, seemed doomed to stamp earnest industry, their only means of liberty and happiness, with the Cain-like mark of slavery and woe.

READING.

BY GEO. L. FARNHAM, A.M., SUPERINTENDENT OF SCHOOLS, COUNCIL BLUFFS, IOWA.

FIRST PRINCIPLES.

Definition.—Reading consists:—First, in gaining the thoughts of an author from written or printed language; second, in giving oral expression to these thoughts in the language of the author, so that the same thoughts are conveyed to the hearer.

It is important that this two-fold function of reading should be fully recognized. The first, or silent reading, is the fundamental process. It is often called "Reading to one's self," a phrase significant as indicating a wrong conception of the true end to be accomplished. The second, oral reading, or "reading aloud," is entirely subordinate to silent reading. While oral expression is subject to laws of its own, its excellence depends upon the success of the reader in comprehending the thought of the author. The importance of these distinctions is so great that I will consider them in detail.

Silent, or Eye Reading.—It is scarcely possible to exaggerate the importance of correct "eye reading;"—of the ability to look over the written or printed page, and, with the least possible consciousness of the words used, to fully comprehend the thoughts expressed.

A common process is indicated by the expression "reading to one's self." This means the translation of written into oral language. The reader either pronounces each word so that he can actually hear it, or he thinks of the pronunciation. In either case the thought is not formed in his mind directly through the written language, but indirectly, after the written words have been changed into oral expression. This process is slow and laborious, it becomes painful when long continued; and its practice will account for the antipathy which so many persons have to reading books and articles of considerable length.

The object in teaching should be to make every pupil an eye reader—to give him the ability to look directly through the written expression to the meaning, or to at once detect the unknown elements that prevent the accomplishment of this object.

A New Use of the Eye.—The ordinary function of the eye is to take in the visible characteristics of objects. This is the use to which all children have become accustomed, and they form judgments in accordance with perfect confidence. No child doubts his ability to distinguish his friends, his toys, or any object to which he may direct his attention. Through this sense, aided by touch, he comes into possession of most of his knowledge of the external world. The knowledge so obtained is direct and tangible.

With hearing it is different. While the ear recognizes sound as sound, it has been accustomed from the earliest period to recognize thought through the sound of oral language, until the thought becomes primary in his consciousness, and the sound of the language secondary. Indeed, language becomes so purely representative of thought, that, as sound, it scarcely appeals to consciousness. The child associates speech with thoughts divined from his experience, and never regards it as having a separate existence. The words he hears quicken thought into conscious activity, and he in turn is impelled to express his thought by the use of words.

The child has come into possession of his powers, both of thought and of expression, by a gradual and unconscious process. He has simply been shaped by his surroundings. By association with those who talk, he has acquired the power of understanding speech, and of speaking. The kind of speech, whether perfect or imperfect, which he hears he produces.

This fact should be distinctly understood and realized. The powers of speech and of understanding what is said, both come to the child by a process so simple and natural that he is conscious of no effort to acquire them. Speech, objectively considered, is only a combination of sounds uttered in quick succession, having not the slightest resemblance to the thoughts represented; but by the child it is understood with exactness and uttered with precision. The whole complicated process is matured without effort, and without the intervention of teachers.

To make the eye perform the office of the ear, and the hand that of the organs of voice, is the problem that presents itself in attempting to teach a child to read and to write. The vital point is to so change the function of the eye that it will look upon written or printed characters, not as objects to be recognized for their own sake, but as directly calling into conscious being past experiences, and so becoming representative of thought. All the efforts of the teacher should be directed to this end.

At this point our education has often failed. The process of translating the written language into speech is so slow and difficult that a large share of the pupils of our schools are condemned to comparative ignorance. The words as they appear have no meaning to them. One who acquired the power of directly receiving thought from the printed page is endowed with a new intellectual faculty. His eye flashes along the pages of a book, and he comprehends whole sentences at a glance. It would not do to say that these rapid readers do not understand what they read. The fact is they understand much better than the slow reader. The mental power, being relieved from the necessity of translating, concentrates itself upon the thought, and the thought is understood and remembered. Our endeavour should be to give pupils this power of eye reading from the first, so that they may continually profit by it, and have no evil habits to overcome.

PROFESSIONAL EXAMINATIONS.

LINDSAY MODEL SCHOOL, OCT. 1881.

SCHOOL LAW AND REGULATIONS.

1. What are the essential points of an agreement between trustees and teacher?
2. Name the vacations and holidays in Public Schools.
3. Under what conditions may the summer vacation be shortened?
4. For what offences may a pupil be suspended?
5. What business should be transacted at an Annual School Meeting?
6. What should the half yearly report contain?
7. Describe the General Register.
8. What are the regulations respecting (1) presents to teachers, (2) contagious diseases, (3) punctuality of pupils.

HYGIENE.

1. State the chief evils arising from breathing impure air.
2. Describe the structure of the human ear, and tell the rules to be observed in the care of it.
3. State fully the precautions that should be taken to prevent the spread of contagious diseases.
4. What method would you take to restore a person apparently drowned?
5. Name (1) the principal, (2) the accessory organs of digestion.
6. Give at least six rules the observance of which would conduce to proper digestion.

MENTAL ARITHMETIC.

1. Quotient 1250, divisor 12, remainder 8; find dividend.
2. MDL+LXI+XIX.
3. A can do a work in 2 days, B in 3 days. In what time can A and B do it?
4. Exchanged 11 tons of hay for 15 sheep at $6 each, and 4 sheep at $5 each. What was the hay per ton?
5. What number multiplied by 9=7236 × 5?
6. Bought cloth at ·27, and sold it at ·24; what did I lose %?
7. $\frac{3}{5}$ of 100 is $\frac{3}{250}$ of $\frac{1}{5}$ of what number?
8. Reduce £3 3s. 3d. to dimes, and divide equally among 23 boys.
9. If $\frac{2}{3}$ of a herring cost $\frac{3}{5}$ of a dime, how many herrings will 90 cents buy?
10. Reduce 15 days to minutes.

EDUCATION AND SCHOOL ORGANIZATION.

1. Construct a time-table for a school of 50 pupils in 1st, 2nd, 3rd, and 4th classes?
2. What Arithmetic should be taught in the 3rd class, and what Geography in the 4th class?
3. How would you begin to teach (1) Dictation, (2) Composition, and (3) History?
4. Discuss the daily marking of recitations.
5. How would you encourage cleanliness, punctuality and honesty in pupils?
6. What rules would you adopt with respect to pupils when not reciting in order to secure quietness?
7. What purposes, besides teaching spelling, may dictation serve? And how may these purposes be accomplished?

INFORMATION LESSONS.

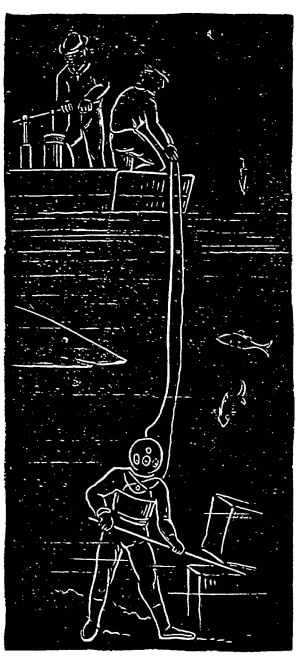
BY JAMES L. HUGHES.

Most teachers make the egregious blunder of supposing that Object Lessons are merely information lessons—or lessons on common things. It is a pity that the name "Object Teaching" should have been given to a system designed to develope pupils instead of cramming them; as it has had the effect of making teachers confine their attempts at reasonable teaching to lessons on common objects. The great majority of the books written on Object Teaching are misleading to teachers. They are simply cyclopædias of information concerning common things. True object teaching will never make much progress until this crippling idea is driven from the minds of teachers. Freed from this restrictive application of true principles, teachers would speedily learn that most, if not all, the school subjects can be taught on the developing plan. Pestalozzi discovered no new principles, he applied understood methods to a new and limited department of school work. This does not prevent the use of the same methods in teaching other subjects. While strongly insisting that Object Lessons are not necessarily information lessons, we as strongly urge teachers to widen the range of their pupils' vision by giving them incidentally, and by set lessons, as much general information as possible. We propose to give special attention to this portion of school work in the department of the SCHOOL JOURNAL set apart for the purpose of supplying teachers with useful and interesting information on general topics, to communicate to their pupils. It is a good plan to write on the blackboard on Friday evening a list of questions on the current topics of the day, or concerning some important facts not generally known, and require the pupils to find answers to them, by questioning their friends, or by reading. There is no better exercise for directing the pupils to read good books in a proper way. They have a fixed purpose, and without such a purpose reading is often valueless. It will also be found a stimulating exercise to request pupils to state at a certain time some facts, or principles, with which they have recently become acquainted, for the benefit of their classmates. If this be allowed once a week it will lead to a vast amount of useful investigation by the pupils, and will also give the teacher the opportunity of conducting one of the best possible language lessons. Such a lesson might properly be assigned as a composition lesson. Oral composition is not less important than written composition.

DIVING.

All children will be interested in learning how men can exist under water for hours. The accompanying cut and description will aid teachers in giving a lesson on this interesting subject. It will form a good object lesson for the whole school, as many important principles in Pneumatics and Hydrostatics may be explained in connection with it. The cut will form a good drawing lesson if put on the blackboard.

The diver simply puts on a peculiar kind of a suit made of India-rubber, which completely covers him and keeps out the water. Glass is fixed in the helmet for him to see through. Of course, he must have air to breathe; that is supplied by a hose or tube leading from the inside of his suit or covering up to a boat, where other men are carefully pumping air to him through the hose. His boots have leaden soles, and heavy weights are attached to his suit to enable him to sink. Of course, he does not feel the great weight of the apparatus while he is in the water. In such suits men go under the water to examine and repair ships, recover wrecks, sunken treasures, &c.



A Man in a Diver's Suit or Armor building a Foundation under Water.

The following conversation with a diver is taken from the *Scholar's Champion:*

"How does it seem," said a reporter to a diver of twenty-three years' experience, "to go down into the water, fathom after fathom?"

"Well," was the reply, "the first time a man goes down, he is apt to be considerably scared on account of the pressure. If a man is lowered too fast it will kill him. Divers are seldom or never killed by drowning, but by an unequal pressure. A diver could cut a hole in the lower portion

of his suit without fear of being drowned, as long as he stood erect; for as long as air was supplied by the air pump, the water could not reach his mouth. In deep water the pressure is very great, and usually a diver can descend as deep as he can stand the pressure. Divers seldom descend over one hundred and seventy feet, and rarely as deep as that. Under the water the ears feel stopped up, but sometimes we can make ourselves understood by putting two helmets together and shouting, but then it sounds no louder than an ordinary whisper. A man who went down for the first time would be likely to signal to come up after feeling the pressure in the ears, which is very unpleasant until you are used to it."

"How about the fish; do they ever molest you?"

"Very seldom. You see, we make it a rule not to disturb them. We know that they are in their element and we are not in ours. As for sharks, we don't care for them. They are cowardly and easily frightened off. We are much more afraid of the baricoats, a surface fish with teeth three inches long. Talk about fish—why one can't have any conception of them until he has been under the water and seen them of all sizes and colors of the rainbow. The noise by a school of fish sounds under water like the rumbling of thunder.

"One of the greatest curiosities in this line was the Jew-fish I encountered when diving on the coast of Venezuela. These fish are from six to fifteen feet in length, and have a large mouth with small teeth. The Jew-fish have a great deal of curiosity, and used to eye us while we were at work. We were a little afraid of them at first, but found that they would not harm us. I suppose you have heard of the electric eel, which has the power to give a shock equal to any battery. When we were diving at the West Indies, one of our divers received a severe shock from an electric eel, and for a time he seemed paralyzed. Mules and other animals, when fording streams in that country, often receive a shock."

"Is it dark under water?"

"That depends upon how clear the water is. I have been down twenty fathoms, where I could see to read the finest print, and I have been down ten feet where you could not see your hand before you. Before we see a body or an object under the water, we always see the shadow first."

"How about the bottom of the ocean?"

"In many places it is beautiful, especially where the coral reefs are. Coral looks like a forest of trees that had been cut down. I have seen coral as large as the stump of any tree you ever saw, with enormous limbs running downward, the trunk and branches being of the purest white coral. I have encountered a coral reef after descending three fathoms, and a bottom of pure white sand after descending two fathoms more."

SELECTIONS FOR MEMORIZING.

The systematic practice of memorizing brief selections from the best authors was first introduced by Hon. J. B. Peaslee, Superintendent of Schools in Cincinnati. It is one of the most important, and may be made one of the most interesting, of school exercises. The selections are *taught in school* as a part of the opening exercises, and form no part of the *home work* of the pupils. One selection is taught each week; two or four lines being taught at a time, so that only a very short time is spent each day.

The benefits resulting from the exercise are:

1. The memory is cultivated.
2. The moral nature is developed.
3. A large store of choice selections are fixed in the minds of the pupils.
4. Composition is improved; the vocabularies of the pupils are enriched, they become acquainted with the language used by the best writers, and learn to use these words in their most appropriate connection.
5. Expressive reading is taught in the most practical way possible.

METHOD OF TEACHING THE SELECTIONS.

1. One line is written on the board by the teacher, and read by him distinctly, with emphasis rather overstrained, and pauses marked too distinctly.
2. The pupils repeat the line, imitating the teacher.
3. The teacher calls special attention to those parts of the line where the pupils have failed to imitate him accurately, and repeats the whole line, which is again repeated by the class. This is continued until the class recites the line correctly simultaneously.
4. A few individual pupils may then be called upon to recite the line.
5. The other lines are taught in a similar way. After each additional line is taught, the whole is recited from the beginning.

FIFTH BOOK CLASSES.

1.

Rouse to some work of high and holy love,
And thou an angel's happiness shalt know—
Shalt bless the earth while in the world above:
The good begun by thee shall onward flow
In many a branching stream, and wider grow;
The seed, that in those few and fleeting hours,
Thy hands unsparing and unwearied sow,
Shall deck thy grave with amaranthine flowers,
And yield thee fruits divine in heaven's immortal bowers.—*C. Wilcox.*

2.

Whene'er a noble deed is wrought,
Whene'er is spoken a noble thought,
Our hearts in glad surprise
To higher levels rise.
The tidal wave of deeper souls
Into our inmost being rolls,
And lifts us unawares
Out of all meaner cares.—*Longfellow.*

3.

Be wise to-day; 'tis madness to defer;
Next day the fatal precedent will plead;
Thus on, till wisdom is pushed out of life.
Procrastination is the thief of time;
Year after year it steals, till all are fled,
And to the mercies of a moment leaves
The vast concerns of an eternal scene.—*Young.*

4.

The rose which in the sun's bright rays
Might soon have drooped and perished,
With grateful scent the shower repays
By which its life is cherished:
And thus have e'en the young in years
Found flowers within that flourish
And yield a fragrance fed by tears,
That sunshine could not nourish.—*Bernard Barton.*

FOURTH BOOK CLASSES.

1.

There's a wideness in God's mercy
Like the wideness of the sea;
There's a kindness in his justice,
Which is more than liberty.
For the love of God is broader
Than the measure of man's mind;
And the heart of the Eternal
Is most wonderfully kind.—*F. W. Faber.*

2

We rise by things that are 'neath our feet;
By what we have mastered of good and gain;
By the pride deposed and the passion slain,
And the vanquished ills that we hourly meet.

I count this thing to be grandly true,
That a noble deed is a step toward God,
Lifting the soul from the common sod
To a purer air and a broader view.—*J. G. Holland.*

3

One by one the sands are flowing,
One by one the moments fall;
Some are coming, some are going;
Do not strive to grasp them all.

One by one thy duties wait thee,
Let thy whole strength go to each;
Let no future dreams elate thee—
Learn thou first what these can teach.
—*Adelaide A. Proctor.*

4

There's nothing bright, above, below,
From flowers that bloom, to stars that glow,
But in its light my soul can see
Some feature of thy deity!

There's nothing dark, below, above,
But in its gloom I trace thy love;
And meekly wait that moment when
Thy touch shall turn all bright again.—*Thomas Moore.*

THIRD BOOK CLASSES.

1

True worth is in being, not seeming—
In doing each day that goes by
Some little good, not in dreaming
Of great things to do by and by;
For, whatever men say in their blindness,
And spite of the fancies of youth,
There is nothing so kingly as kindness,
And nothing so royal as truth.—*Alice Carey.*

2

Rest not! Life is sweeping by;
Go and dare before you die.
Something mighty and sublime
Leave behind to conquer time;
Glorious 'tis to live for aye,
When these forms have passed away.—*Goethe.*

3

The lesson which the many-colored skies,
The flowers, and leaves, and painted butterflies,
The deer's branched antlers, the gay bird that flings
The tropic sunshine from its golden wings,
The brightness of the human countenance,
Its play of smile, the magic of a glance,
For evermore repeat,
In varied tones and sweet,
That beauty, in and of itself, is good.—*Whittier.*

4

Work for the good that is nighest;
Dream not of greatness afar;
That glory is ever the highest
Which shines upon men as they are.
Work, though the world would defeat you;
Heed not its slander and scorn;
Nor weary till angels shall greet you
With smiles through the gates of the morn.—*W. M. Punshon.*

SECOND BOOK CLASSES.

1.

Hearts, like doors, can ope with ease
To very, very little keys;
And don't forget that they are these;
"I thank you, sir," and "If you please."

Then let us watch these little things,
And so respect each other;
That not a word, or look, or tone
May wound a friend or brother.

2.

True worth is in being, not seeming—
In doing each day that goes by
Some little good, not in dreaming
Of great things to do by and by;
For, whatever men say in their blindness,
And spite of the fancies of youth,
There is nothing so kingly as kindness,
And nothing so royal as truth.—*Alice Carey.*

3.

THE SCULPTOR BOY.

Chisel in hand stood a sculptor boy
With his marble block before him,
And his face lit up with a smile of joy
As an angel dream passed o'er him.
He carved that dream on the yielding stone
With many a sharp incision,
In heaven's own light the sculptor shone—
He had caught that angel vision.

4.

Sculptors of life are we; as we stand
With our lives uncarved before us,
Waiting the hour when at God's right hand
Our life-dream passes o'er us.
Let us carve it then on the yielding stone
With many a deep incision,
Its heavenly beauties shall be our own—
Our lives that angel vision.—*Oliver Wendell Holmes.*

FIRST BOOK CLASSES.

1.

A little child may have a loving heart,
Most dear, and sweet;
And willing feet.

A little child may have a helping hand,
Full of kind deeds
For many needs.

A little child may have a gentle voice
And pleasant tongue
For every one.

2.

'Tis *being*, and *doing*,
And *having* that make
All the pleasures and pains
Of which beings partake.

To be what God pleases,
To do a man's best,
And to have a good heart,
Is the way to be blest.—*Peter Parley.*

3.

DO IT NOW.

If you're told to do a thing,
And mean to do it really,
Never let it be by halves;
Do it fully, freely.

When father calls, though pleasant be
The play you are pursuing,
Do not say, "I'll come when I
Have finished what I'm doing."

4.

If you are told to learn a task,
And you should *now* begin it,
Do not tell your teacher, "Yes,
I'm coming in a minute."

Waste not moments nor your words
In telling what you could do
Some other time; the present is
For doing what you should do.—*Phœbe Carey.*

TEMPERANCE IN THE SCHOOLS.—No man's public rights will be invaded if it is decided, as we think it ought to be, that *total abstinence* is that form of temperance which should be enjoined in the schools. The subject belongs fairly and wholly within that range of practical matters affecting the State, upon which the State has a right to give judgment; and it lies, too, in the appropriate region of school-life. We do not think, therefore, that any man has a right to be offended, whatever his own personal opinion or practice may be, if he finds that the principles of total abstinence are laid down and commended in our public schools. And no school authorities anywhere ought to hesitate in causing such instruction to be given. It is the safe course, assuredly, for the children and for the public, and no one may fairly object.—*The Congregationalist.*

Notes and News.

ONTARIO.

The publishers will be much obliged to teachers and others for items of information of interest to the profession in Ontario. It is much better that notes should be written instead of clipped from newspapers.

If ever an able and ambitious student had reason to feel grievously disappointed, Mr. Huston, of the Pickering College staff, certainly has. He was really "*three days too old*" when he began to write, although not 22 when he *made* his application. He reflected great credit on Canadian scholarship, and entered upon the examination with the assurance that he was eligible, as the following letter shows plainly:

[No. 993.]

PROVINCIAL SECRETARY'S OFFICE, ONTARIO,
TORONTO, 11th June, 1880.

Sir,—I have the honor to acknowledge the receipt of your letter of the 7th instant, respecting the age of applicants for the "Gilchrist Scholarship," and to inform you, in reply, that a candidate who has not completed his twenty-second year at the time of his application is eligible for the scholarship.

I have the honor to be,
Sir,
Your obedient servant,
JOHN H. USSHER,
Acting Asst. Secretary.

W. H. HUSTON, Esq.,
Whitby.

By hard work and his own native ability, he stands ahead of all competitors, and out of some 600 or 700 candidates from the English Universities who wrote from the same papers, holds the high position of only eighth from the head of the list, and thirteen higher than Mr. Murray Howard, to whom the scholarship was awarded. A mere technicality or error, for which Mr. Huston is in no way responsible, may deprive this gentleman of the honor given to another. Justice certainly gives Mr. Huston the Gilchrist Scholarship, and his friends will warmly congratulate him on the result.

The following gentlemen constitute the staff of the St. Mary's Collegiate Institute:—James E. Wetherell, B.A., Medallist in Classics, Toronto University, Principal; John E. Tom, First Class A, Medallist of Toronto Normal School; Wm. McClure, B.A., Gold Medallist in Mathematics, McGill University, Montreal; Isaac M. Levan, B.A., Honor Graduate of Toronto University. A fifth Master will be appointed for the Winter and Spring Terms. It is good policy for a Board of Education to get good men, and better still to pay them good salaries.

The Ontario Commercial College is doing a good deal to add to the respect entertained abroad for Canadian schools. During the last term of the college it was attended by students from Bermuda, West Indies, New York State, Pennsylvania, Quebec, New Brunswick, and all parts of Ontario. The following, clipped from the Belleville *Intelligencer*, shows that the reputation for thoroughness which the college has earned is producing results which must be gratifying to its managers:—"A young man named Donald Ross, son of Roderick Ross, Esq., Chief Factor of the Hudson Bay Company in the Norway House district in the North-West, arrived in Belleville yesterday to attend Ontario Commercial College. The journey from Norway House to Winnipeg took fifteen days, and from Winnipeg to Belleville four. Mr. Ross chose the Belleville College for his son from among Canadian institutions owing to the reputation it has in the Hudson Bay Company service."

Farmersville High School passed 12 students at the last Intermediate: 3 A, 5 B, and 4 Int. Well done, Farmersville!

The following is the Time-Table of the next Entrance Examination for admission of candidates to High Schools and Collegiate Institutes in Ontario:—Wednesday, December 21st, 1881: 9 a.m. to 10:30 a.m., Geography; 10:45 a.m. to 12 m., Composition; 1:30 p.m. to 3:30 p.m., Grammar. Thursday, December 22nd, 1881: 9 a.m. to 11 a.m., Arithmetic; 11:10 a.m. to 11:30 a.m., Dictation; 1 p.m. to 2:30 p.m., Fourth Book and Spelling; 2:35 p.m. to 4:05 p.m., History.

We are glad to learn that Mr. J. A. Wismer is succeeding in evoking a spirit of enthusiasm in Parkdale in favor of the Public School. Earnestness and tact generally produce this result. We clip the following from the *Parkdale Gazette*: "I have visited the school several times since the new *regime* has been established, and find that the newly appointed master, Mr. Wismer, a gentleman of kindly disposition and classical attainments, has already raised the standard of the classes and brought the school to a state of discipline hitherto unattempted, adopting a curriculum intended to advance rapidly the progress of the pupils; but in order to successfully carry out this, a change in a few of the text books is absolutely necessary—without which the studies of the children would be seriously retarded."

We are glad to learn that Mr. J. C. Glashan, Inspector of Public Schools in Ottawa, and a member of the Central Committee of Examiners for Ontario has recovered from his recent severe illness.

The public spirited School Board of Kingston has provided an excellent library of over three thousand volumes in their handsome Board Room, for the use of the ratepayers of the City. It is gratifying to know that during the past year over twelve thousand volumes were taken out.

Mr. Kidd, Inspector of Public Schools in Kingston, has been suffering from a severe illness for a considerable time. His many friends will be glad to learn that he is now convalescent, with the prospect of entire restoration to health.

Mr. James McNevin's recent experience is an illustration of the fact that trustees throughout the Province are keeping watch for the men who are most successful in raising the standard of their schools. When the comparatively small High School at Caledonia passed nearly as many pupils as the "Ambitious City Institute" many were surprised, and at least two School Boards decided to secure a portion of the Caledonia leaven. Mr. McNevin was appointed Mathematical Master in Walkerton High School, but had only spent a week in his new position when he received an offer of a similar position in Ottawa Collegiate Institute. He is worthy of the attention he receives, and his humility is as noteworthy as his ability.

NOVA SCOTIA.

The first meeting of the Teachers' Association of Antigonish and Guysboro' was held in one of the rooms of St. Francois Xavier's College on Thursday and Friday, the 25th and 26th August, under the *ex officio* presidency of Inspector McDonald. After a short and appropriate introductory address by the President, the appointment of officers was proceeded with. The following officers were elected: Vice-President, Mr. Wm. McIsaac; Secretary, Mr. Wm. F. Kiely; Treasurer, Mr. Alex. McKinnon; Committee of Management, Messrs. Angus Chisholm, A.B., W. G. Parsons, A.B., Alex. McKinnon, R. C. McDonald, J. P. Hogan, W. H. Cameron, Wm. McIsaac. The programme of the first day consisted of papers from the following gentlemen: Mr. Jos. A. Chisholm, on the "Study of History"; Mr. Wm. McIsaac, on the "Duties of Teachers"; and Mr. Angus Chisholm, on "Mathematics,"—all of which were admirably written, and elicited animated discussions, participated in by Messrs. Parsons, McIsaac, Cameron, McDonald, Parker, Chisholm, and others. The proceedings of Friday were opened with a discussion on the duties of teachers to themselves and to one another, and the means that should be employed to raise their calling to the dignity of a profession. After a spicy debate on this question, a motion was preferred by Mr. Parsons to gain an expression of opinion relative to compulsory education. The subject was vigorously and eloquently discussed, and on being put to vote resulted in a majority of four in favour of Compulsory Education. The last paper was from Mr. Parsons, A.B., on the "Art of Teaching," and attracted great attention by the brilliant and philosophical style in which he presented his views on the practical application of the principles of education. The paper was eloquently commented upon by Mr. McIsaac, who also paid the writer's ability a well-merited tribute of praise. By request of the meeting, Mr. Parsons consented to authorize its publication in the CANADA SCHOOL JOURNAL. The meeting was then brought to a close by an address from the President, who expressed his satisfaction at the very successful and creditable manner in which the proceedings had been conducted.

Copy of Resolution moved by Mr. Parsons.

"*Whereas*, by the Free School Act of 1864, provision has been made for the education of all the children of our province. *And whereas*, through the wilful neglect or stubborn opposition of parents on the one hand, or the gross carelessness of the children on the other, the average attendance of the latter is lamentably below what, by the law, was contemplated. Therefore *Resolved*, that

the members of this Association give expression to the Council of Public Instruction of their opinion that a law should be passed rendering compulsory the attendance of our youth at the Public Schools so generously provided for them, for at least one half of the regular school year."

The Teachers' Association of King's and Hants' counties held its third annual meeting in Windsor, on Thursday and Friday, September 15th and 16th. Seventy teachers were in attendance, most of whom enrolled as members. The officers appointed for next year are :—Conlin W. Roscoe, Inspector of Schools, President (*ex officio*); John F. Godfrey, Principal Windsor High School, Vice-President; Geo. J. Miller, Principal Kentville High School, Secretary-Treasurer; W. P. Shaffner and Miss Carrie Parsons, of Wolfville School, Mrs. B. Chandler, Windsor, and H. S. Jacques, Berwick, Managing Committee. Inspector Roscoe expressed the pleasure it gave him to meet so many of the teachers of his district at the association. He said he was requested by Dr. Allison, Superintendent of Education, to assure the teachers of his deep interest in the objects and aims of their society, and his regret at not being able to be present. He (the president) would not occupy the valuable time of the association by any preliminary remarks at this stage, but invite all present to participate freely in discussing the various topics outlined on the programme. Mr. A. D. Foster read a paper on "Spelling," in which he recommended a combination of oral and written spelling, as producing the best results. Words should be grouped in families, and special attention given to similar terminations, &c. This subject was spoken to by Messrs. Saunders, Pineo, Craig, Mrs. Chandler, and the President, who, while agreeing in the main with the paper, added valuable suggestions from their own experience. A. J. Pineo, B.A., Principal of Hants Border School, gave a paper on "Science in Schools," in which he strongly advocated the more general introduction of the physical sciences into school work. In giving reasons for taking this position, he showed the bearing of the subject upon the actual pursuits of life; their value in drawing out and developing the mind, by teaching the student to observe and think for himself; and the pleasure to be derived from the reverent study of the works of the Divine Architect. He showed the necessity of teachers seeking a preparation for this work, and suggested as an aid in the attainment of that object and as a means of encouraging the popular study of the sciences, the formation of a society. The idea was favorably received by the association, and a committee appointed to consider the matter and prepare a plan for the organizing and conducting of such a society. The Committee reported at a subsequent session, and the following resolution was adopted, viz:—"*Whereas* the study of the natural sciences tends directly to promote the comfort, well being, and happiness of those engaged in it, and, indirectly, of society in general; *And whereas*, in the opinion of this association, the more general introduction of this study into the common schools could not fail to be productive of the best results; *And whereas*, it is also the opinion of this association that the formation of a society, having for its object increased proficiency in the department of science on the part of the teacher and the awakening of a more general interest in, and diffusion of scientific knowledge, would be a laudable and effective means of reaching that end: Therefore *Resolved*, that this association lend its hearty co-operation in the work of forming and sustaining such a society; and further *Resolved*, that a committee be appointed to confer with the leading educationists and specialists in the several departments of science, asking their co-operation in forming such a society." Inspector Roscoe, A. J. Pineo, B.A., Principal Hants Border School, and J. F. Godfrey, Esq., Principal Windsor High School, were appointed as such committee. A paper was then read by Miss Rachel De Wolfe, of Windsor School, on the "Phonic and Sight Methods of Teaching Reading." She gave a lesson to a class of her own pupils, illustrating the principles advocated in the paper. Both the paper and the lesson were excellent. Miss S. E. Cohoon contributed a paper on "How to Teach Geography." She emphasized *Map drawing* as essential to thoroughness in this study. Wall maps might in a large measure be dispensed with. Considerable discussion followed this paper in which many good ideas were exchanged. A public educational meeting was held in Temperance Hall on Thursday evening. Pres. Roscoe said he regretted the absence of Dr. Sawyer, of Acadia College, and Rev. J. B. Logan, whom he had expected to address the meeting. He briefly reviewed the formation of the Association and the work it was aiming to perform. It represented a district in which were laboring over two hundred teachers, in whose charge were ten thousand children. These were to be instructed and trained to be useful citizens. The work was immense; and the results, incalculable. Mr. J. F. Godfrey read his paper, "Should Latin be generally taught in the Public Schools?" He was followed by Mr. A. J. Pineo with a paper, previously read to the association, on 'Science.' Rev. E. M. Kierstead, M.A., addressed the meeting at some length. He dwelt, in a forcible and impressive manner, upon the necessity of true character in the teacher. The address was admirable, and listened to with marked attention. Edgar De Wolfe, Esq., Judge of Probate, followed in a short speech, in which he strongly favored compulsory education; and considered bad government at home was the primary cause of bad conduct in school. Friday morning's session opened with a discussion of Mr. Godfrey's paper. Almost all the teachers agreed with Mr. G. in the importance of teaching Latin, but did not see how time could be spared for it in miscellaneous schools without detriment to the many elementary branches which a teacher is expected to teach. The writer was highly complimented for his paper. Mrs. B. Chandler gave a paper on "Botany," and explained her method of teaching beginners. Mrs. C. exhibited to the meeting a book prepared by her pupils, containing specimens of leaves, etc., and a chart of a variety of plants, drawn by herself, for use in teaching this subject. By vote of the Association, she was requested to furnish her paper for publication in the CANADA SCHOOL JOURNAL. Mr. W. W. Saunders, Principal of Hantsport School, read a paper on "How to treat Backward Pupils." He gave his own experience in this matter, and presented many valuable hints to younger teachers. The last paper read was by Miss A. Burgoyne, of Windsor School, on "Drawing," Walter Smith's System. The paper was to the point and excellent. She illustrated her plan of teaching to a large class of her own pupils; the pupils all drawing simultaneously and executing rapidly some very fine and really difficult pieces. The lesson was very interesting, and made a strong impression in favor of linear drawing.

MANITOBA.

The fifth Convention of the Manitoba Teachers' Association, which was largely attended, has just closed. The following are the officers for the ensuing year, viz. :—The Rev. W. C. Pinkham, President; J. H. Stewart, Esq., First Vice-President; Miss S. Wright, Second Vice-President; W. A. McIntyre, Esq., Secretary; Miss Maggie Eyres, Treasurer; Miss McEwen and Messrs. J. B. Ferguson, N. Hewitt, J. D. Hunt, and E. A. Ganalt, Councillors Papers were read by J. H. Stewart, Inspector of City Schools; J. B. Adams, Cook's Creek; N. Hewitt, St. Paul's; and Stewart Mulvey, Chairman of the City School Trustees. The discusssions upon the papers were eminently pointed and practical. Mr. Stewart, on behalf of the committee appointed at the last meeting to prepare a system of uniform promotion examinations, presented a report, which was taken up clause by clause. After a number of the clauses had been discussed, the report was, on motion, referred back to the Committee with the request that they report again at the next meeting. It was resolved, "That the publishers of the CANADA SCHOOL JOURNAL be asked for quotations for fifty or one hundred copies of their journal, and that the Secretary notify the members and teachers through the press what subscription sum would entitle them to the JOURNAL for one year, as well as all the privileges of the Association. Mr. Stewart Mulvey was unanimously elected an honorary member of the Association.

At a special meeting of the Protestant Section of the Board of Education, held recently, the following resolution was unanimously adopted, viz: "That the Superintendent (the Rev. W. C. Pinkham, B. D.) be hereby empowered to proceed as soon as possible to the Eastern Provinces, for the purpose of visiting some of the principal Normal, Model, and High Schools of the Dominion, and on his return to report to this Board upon a system of training schools for teachers, and of High Schools, for the Province of Manitoba."

The following gentlemen have been appointed Inspectors, viz. :—J. H. Stewart, Esq., Inspector of City Schools, for the schools in the County of Selkirk on the west side of the Red River; S. H. Stewart, Esq., Birtle, for the schools at Brandon, Rapid City, Eden, &c., &c.; Rev. R. Young, B.A., St. Andrew's, for the schools in the municipalities of St. Andrew's and St. Paul's; Rev. A. Campbell, B.A., Rockwood, for the schools in the municipality of Rockwood.

Readings and Recitations.

GUARD YOUR WORDS.

Keep guard of your words, my darlings,
For words are wonderful things:
They are sweet like the bee's fresh honey,
Like the bees they have terrible stings.
They can bless like the warm, glad sunshine,
And brighten a lonely life,
They can cut in the strife of anger,
Like an open two-edged knife.

Let them pass through your lips unchallenged,
If their errand is true and kind;
If they come to support the weary,
To comfort and help the blind.
If a bitter, revengeful spirit
Prompts the words, let them be unsaid;
They may flash through a brain like lightning,
Or fall on a heart like lead.

Keep them back if they're cold and cruel,
Under bar, and lock and seal;
The wounds they make, my darlings,
Are always slow to heal.
May peace guard your lives, and ever,
From this time of your early youth,
May the words that you daily utter
Be the beautiful words of truth.

TWO AND ONE.

RECITATION.

Two *ears* and only *one mouth* have you:
The reason, I think, is clear:
It teaches, my child, that it will not do
To *talk* about all you hear.
Two eyes and only *one mouth* have you:
The reason of this must be,
That you should learn that it will not do
To talk about all you see.
Two hands and only *one mouth* have you;
And it is worth repeating,—
The *two* are for work you will have to do,
The *one* is enough for eating.

AN OLD SAW.

A dear little maid came skipping out
In the glad new day with merry shout;
With dancing feet and flowing hair
She sang with joy in the morning air.

"Don't sing before breakfast, you'll cry before night!"
What a croak, to darken the child's delight!
The stupid old nurse, again and again,
Repeated the ancient dull refrain.

The child paused, trying to understand;
But her eyes saw the great world rainbow-spanned;
Her light little feet hardly touched the earth,
And her soul brimmed over with innocent mirth.

"Never mind—don't listen—O sweet little maid!
Make sure of your morning song," I said;
"And if pain must meet you, why, all the more
Be glad of the raptures that came before.

"O, tears and sorrow are plenty enough,
Storms may be bitter and paths may be rough,
But our tears should fall like the dear Earth's showers,
That help to ripen the fruits and flowers.

"So gladden the day with your blissful song—
Sing on while you may, dear, sweet and strong!
Make sure of your moment of pure delight,
No matter what trials may come before night."

Teachers' Associations.

SOUTH ESSEX.

The following is a synopsis of the discussions at the local or township conventions of teachers in South Essex on the 17th, 18th, 19th, 27th and 28th of October:

HOW TO REDUCE IRREGULARITY OF ATTENDANCE TO A MINIMUM.

(1) *Teachers visit parents and guardians.*—Many wrong impressions and many false reports can be removed by a single visit to the children's homes. Teachers object to visiting, because of the time required. Short visits, with agreeable and useful conversation, are much more acceptable and profitable to all parties concerned. Parents rarely have time for lengthened visits. Two or three homes may be visited in one evening.

(2) *Give prizes for regularity of attendance.*

ARGUMENTS IN FAVOR OF PRIZES.

(*a*) Long continued experience has shown that prizes are useful.
(*b*) The expectation of gaining a prize increases interest in study.
(*c*) The prospect of gaining a prize promotes competition.

ARGUMENTS AGAINST PRIZES.

(*a*) Undue prominence is given to a comparatively unworthy object, the higher object being overlooked.
(*b*) Jealousy is aroused and fostered.
(*c*) The prize rewards success, not effort; talent, not worth.
(*d*) Only a few pupils are stimulated, the rest become indifferent.
(*e*) The gaining of the prize being the chief motive to effort, the habit will not be continued when the prize is withdrawn.

If prizes are given for attendance, all pupils who attend a given number of days should receive the same valued prize, *e.g.*, all between whole year and 200 days, between 200 and 150, between 150 and 100 days, &c.; but there should be a minimum of days below which no prize should be given.

(3) *Visitation of school by parents, trustees, and school visitors.*
(4) *Enforcement of compulsory attendance law by trustees.*
(5) *Monthly public reviews.*
(6) *Monthly reports.*—Reports nearly always favorable to the pupils are made to parents; hence the teacher should in self-defence use every means to keep parents correctly informed on school matters. Some educators do not consider the management of a school, without a system of reports, perfect.

(7) *Merit marks.*

ARGUMENTS FOR THEM.

(*a*) They aid in giving system to the working of the school.
(*b*) They constitute a convenient medium of conveying a truthful account of the pupil's conduct, progress, &c., to parents and friends.
(*c*) They facilitate making transfers from one class to another.
(*d*) Although it does not appeal to high motives, yet the great majority of students have not formed high ideals of human perfection, and cannot be actuated by motives prompting to their attainment.

ARGUMENTS AGAINST THEM.

(*a*) Only the merits of the recitation can be marked, no account being taken of difference in abilities or opportunities.
(*b*) Pupil's attention is diverted from the high object of study to the low one of gaining good marks.
(*c*) Much time is wasted in marking each lesson.
(*d*) Pupils cannot always correctly estimate the value of an answer or action, hence jealousy may be aroused.

(8) *Make school interesting.*

(*a*) *Decorate school-room.*—Expensive decoration is quite unnecessary. Cheap pictures, illustrating natural scenery, historic characters or places, or animals, &c.; but all such pictures should constitute a subject of study for pupils, and they should be taught to appreciate their excellence.
(*b*) *Recitations.*—The selection should be known to the pupil and teacher only, also the time when it is to be recited. Stated times for recitations have very little influence on the rest of school-time. Give variety to school-work by having recitations frequently.
(*c*) *Singing*—both solos and choruses, at fixed times, and occasionally during the day.
(*d*) *School newspaper*—consists of a large scrap-book made of wrapping paper. Pupils gather news (not gossip), write a composition, which, when revised and corrected, is pasted into the scrap-book. At intervals during the day, or at stated times, the teacher, or some pupil, reads selections from this paper; but the book must be kept sacredly closed from the school, or it will cease to be entertaining.
(*e*) *Teacher must show himself to be the pupil's friend* by taking part in school games, by enquiries about his health, his friends, his engagements, his expectations, his reading, by giving advice how to gain more pleasure or some profit, &c.
(*f*) *Geniality of manner without undue familiarity* between teacher and pupils, and between pupils themselves.

(9) *Forfeiture of standing by pupil.*—Pupils may change places in class daily, weekly, bi-weekly, or monthly, or have names placed on honor-roll. Absence from school or lateness in arriving at school, or tardiness in coming to the class, may cause a forfeiture of standing.

Punctuality and promptness in all the school exercises will do much to promote regularity of action.

HOW TO KEEP THE YOUNGER PUPILS BUSY.

(1) *Pupils print or write lessons or figures on slates.*—Variety in exercise is the secret of success with little ones. A strip of wall-paper, on the blank side of which are placed the printed characters, the corresponding *script* forms being placed beneath them, may be placed across the school-room wall. Words in the reading lesson or words printed on the blackboard may be assigned to the pupils to prepare at their seats, and to be formed in both the printed and script characters.

(2) *Provide pupils with slivers, beans, &c.*, to learn the values of numbers by counting and handling objects.

(3) *Drawing.*—Copying pictures in reading books, or of animals, or make original designs, as illustrated in the JOURNAL a few months ago.

(4) *Monitors* may be profitably employed to assist the little ones in counting, spelling, &c.

(5) *Form sentences containing words in reading lessons.*—Put words on blackboard; pupils form as many sentences as possible, with one or more of these words correctly used in them. At first this may be done orally with a monitor, afterwards on the slate.

(6) *Adding by intervals.*—This gives an unlimited means of keeping the children busy. With a monitor pupils may count forward and backward by all the digits. If children cannot count in this manner, they cannot do addition and subtraction properly. One problem put on the board will by this plan keep pupils employed all day, while the teacher's work is much lessened, *e. g.*, "Begin with 6, count by 7's, write 6 numbers in each column, find the sum of each column."

(1)	(2)	(3)	(4)
6	48	90	132
13	55	97	139
20	62	104	146
27	69	111	153
34	76	118	160
41	83	125	167
141	393	645	897

The sum of the first column is the sum of the first addend and last addend multiplied by half the number of addends, *i. e.*, $(6+41)\times 3=141$. The sum of the second column is the sum of the first column added to the square of the number of addends multiplied by the number added each time, *i. e.*, the common difference, as $141+6^2\times 7=141+252=393$. The sum of each succeeding column is found by adding the constant number 252 to the sum of the preceding column. The general expression for the process is $(a+l)\frac{n}{2}=s$.

$$s+dn^2=s_1\,;\ s_1+dn^2=s_2\,;\ s_2+dn^2=s_3,\ \&c.$$

Little children should not be kept constantly at work, unless the work combines pleasure, instruction, and exercise. If they are taught and exercised properly, they can with ease do large mechanical and somewhat difficult practical problems in addition before leaving the first part of the First Reading Book.

HOW TO CULTIVATE INDEPENDENCE OF THOUGHT.

(1) *Object lessons.*—Pestalozzi said: "Observation is the absolute basis of all knowledge. The first object, then, in education must be to lead a child to observe with accuracy, the second to express with correctness the result of his observations." Object lessons are not designed to leave the pupil possessed with information, but to set in operation those processes of thought by which he will gain knowledge for himself. A misapprehension of this fact causes much failure in teaching. There are four great faults in teaching object lessons. First, too difficult an object is selected; second, teachers tell too much; third, terms are given before the pupil has felt his need of them; and fourth, a definite purpose is not followed. *See Sheldon and Calkin on Object Teaching.*

(2) *Pupils should be thrown on their own resources.*—It is the teacher's *privilege* to talk; but it is the pupil's sacred *right* to think. The former should never interfere with the latter. Knowledge can only be transmitted from one mind to another by setting up in the receiving mind the same operations by which the thought was first conceived. Direct the mind towards the knowledge, but let the pupil endeavour to discover it for himself. Arouse the appetite for knowledge; then the pupil will work as directed, and will appreciate what he has gained by honest effort.

(3) *Proceed from the known to the unknown.*—The truth to be taught should always be related to the knowledge the pupil already possesses. At the beginning of every lesson seek to connect it to some previous lesson or to some familiar fact or truth. This will show the beauty and uses of the facts to be taught—it will enlarge the scope of the old and familiarize the new.

(4) *Deduce lessons taught* by extracts read, by the events of the day, or by those given in histories. Care must be exercised that there may be sufficient data from which to draw an inference.

(5) *Require reasons for actions.*—For every action there should be sufficient reason. This course may reveal ignorance or rashness on the part of the pupil.

(6) *Use composition.*

(*a*) Give substance of reading lessons orally and in writing.

(*b*) Form new sentences containing difficult words in reading lesson.

(*c*) Require variations in form of sentences.

(7) *Encourage pupils to ask questions.*

(8) *Avoid routine in questions and answers.*—The sameness in questions frequently causes failure when an inspector or strange teacher questions a class. Every question should demand thought to answer it.

(9) *Remove numbers from problems,* and then require method of solution to be given.

(10) *Give practical problems* in arithmetic, laying special stress on mental arithmetic.

(11) *Ask parallel questions.*

(12) *Avoid dogmatic teaching.*

(13) *Criticise expressions in reading books and those made by other pupils.*

HOW TO AROUSE INTEREST IN SCHOOL AFFAIRS BY PARENTS.

(1) Severely flog the son of a trustee or of some prominent ratepayer.

(2) Send monthly reports.

(3) Missionary work by teacher.

(4) Home exercises by pupils, which should never be given on new work, except in spelling or reading. They should be used to test pupils' understanding of lessons of previous day.

(5) *Quarterly examinations* should not consist entirely of reviews of lessons taught in school, but should combine reviews, recitations, singing, luncheon, and addresses. People are interested in what they can understand, and in nothing else.

(6) *Use newspaper.*—Printer's ink is cheap—advertise your schools—direct public attention to school work—give information on educational topics, &c.

NORTHUMBERLAND.—The regular semi-annual meeting of this Association was held in Cobourg on Thursday and Friday, the 6th and 7th October, Mr. D. C. McHenry, M.A., presiding. At the preliminary session the sum of $30 was voted to supplement the subscription of members for the CANADA SCHOOL JOURNAL and the CANADA EDUCATIONAL MONTHLY. A discussion ensued as to whether the county associations throughout the Province are, after all, rendering the best possible results to the profession in return for the great expense necessarily incurred in their management, at the close of which a resolution was unanimously adopted, instructing the secretary to correspond with the secretaries of the various county associations, requesting them to unite with us in memorializing the Honorable the Minister of Education on the matter of securing the services of some competent person to conduct Teachers' Institutes throughout the Province, to take the place of the present associations. The following subjects were discussed:—"English Grammar—The Verb," G. E. R. Wilson; "How to Conduct a Recitation," D. E. Stephenson; "Use and Abuse of Text-Books in Teaching," D. J. Johnston; "Elementary Physiology," R. K. Orr, B.A.; "Question Drawer," Messrs. Orr, Ellis, and Ash; "Uniform Promotion Examinations," Inspectors Tilly and Scarlett. The addresses, and the discussions on these subjects, were of the usually interesting character. The following were elected officers for 1882:—President, G. Dowler; Vice-President, J. E. Fleuwelling; Secretary and Treasurer, D. E. Stephenson; Management Committee, Messrs. Scarlett, I. P. S., Heyward, and Ellis, B.A., B.Sc.; Auditors, Messrs. Ellis and Black. An extremely interesting and instructive lecture was delivered in the Collegiate Institute on Thursday evening, by the Rev. S. S. Nelles, D.D., President of Victoria University. Subject: "Mistakes in Teaching." The next meeting will be held in Brighton early in May.

WATERLOO COUNTY.—The semi-annual convention of the Waterloo Teachers' Association was held in the Model School, Berlin, on the 9th and 10th of September. The meeting was called to order at 9:30 on the 9th by the President, Mr. S. S. Herner, and after prayer the minutes of preceding meeting were read and adopted. The President then delivered an able address, in which, among other topics, he drew the attention of the teachers to the subject of "Moral Education" in our public schools. By request the delegate read that portion of his report bearing on the "Representation Question," but upon motion of Mr. Chapman, seconded by Mr. Brown, the discussion on that subject was deferred. Mr. W. S. Brown took up "Grammar" (verb and its inflections), which was followed by a discussion between Messrs. Suddaby, Linton, Chapman, Groh, and W. Linton, during which Mr. Chapman gave a very interesting illustration of how to teach pupils to distinguish between the simple tenses of the verb and their perfect forms. On motion of Mr. Suddaby, seconded by Mr. McIntyre, the first hour of each afternoon session was devoted to general business. Mr. Alexander gave notice that in the business hour he would ask "how long pupils should require to master the first part of First Reader." The delegate, Mr. C. B. Linton, then read his report, and on motion of Mr. Alexander, seconded by Mr. Suddaby, the report was adopted and the thanks of the association tendered to Mr. Linton for acting as delegate and preparing the report. Mr. Chapman asked for a discussion on the question, "Should a delegate to the Provincial Association vote according to the wish of

his Association or his own private opinions?" in which discussion Messrs. Knowles, Alexander, B. Hal. Brown, Chapman, Groh, Slater, Ballantyne, W. Linton, and C. B. Linton took part, when Mr. Chapman moved, seconded by B. Hal. Brown, "That in the opinion of this Association, a delegate or delegates appointed by the Association must represent the views, as he or they know them, of the Association he or they represent." Session adjourned till 1.45 p.m. At general business in afternoon Mr. Alexander put his question, "How long a pupil," &c., which excited a lively discussion, a great diversity of opinion being expressed, the time in all cases being modified by the age of pupil when starting and regularity of attendance. A motion to strike out certain words in the constitution (fixing the place of meeting) was discussed and lost. On motion, Messrs. Moyer and Martin were appointed members of Library Committee in place of Messrs. Gray and Steuernagel. Moved by Mr. Chapman, seconded by B. Hal. Brown, That the Library Committee be instructed to prepare a scheme for supplying the members of association with the leading educational periodicals at a reduced rate, the balance of the price being paid out of the association funds.—*Carried.* The Secretary was instructed to procure sufficient copies of minutes of the Provincial Association of 1881 to supply each member with one. Discussion about delegates' duties resumed, and after an amendment being brought forward, followed by a long war in words, the original motion carried. The topic, "Methods of improving our Association," was introduced by Mr. W. Linton, in an able essay, in which some very useful hints were thrown out. Mr. Alexander then opened up for discussion the "Galt half-time system," by giving a brief sketch of its origin, workings, and the objects aimed at. Messrs. McIntyre and Chapman asked questions regarding apparent objections or difficulties in the way of its general introduction, which were satisfactorily replied to by Messrs. Alexander and Groh, the latter giving some illustrations of the plans adopted by him in carrying out the scheme. Moved by Mr. Suddaby, seconded by Mr. Knowles:—That in the opinion of this Association, the "Galt half-time system," employing, as it does, the restless activity of young children as a means to secure their physical, moral, and intellectual education, is sound in principle, and that its adoption in all schools in which pupils under nine years of age are taught would immensely promote the interests of a properly balanced education.—*Carried.* After a few remarks by Mr. Bingeman, the meeting adjourned until 7:30 p.m. In the evening a large audience gathered to listen to a debate on the subject, "*Resolved*—That it would be advisable for all English educationists to countenance the present reform movement, and to lend their influence in reforming the present irregular orthography of language." The chair was filled by Mr. Suddaby. Messrs. B. H. Brown and Knowles maintained the affirmative, and Messrs. Morrison and Herner the negative side of the question. At the close of a very interesting and instructive debate, the audience (by a very small majority) gave its decision in favor of the affirmative. At intervals during the evening vocal music was supplied as follows:—Duett by Misses Groh and Linton; solo by Miss Jones; duett by Misses Ziegler and Weaver; solo by Mr. C. B. Linton; duett by Messrs. Chapman and Winter. Miss Woodsend presided at the organ, which was kindly supplied by Mr Bingeman. After singing the National Anthem, the meeting closed. *Second Day.*—After routine business, Mr. Hilborn gave a short exposition of his method of teaching "Arithmetic" (from reduction), which was followed by an interesting discussion between Messrs. Groh, Alexander, Brueckner, Weismiller, and Hajey, during which Mr. Alexander drew special attention to the great want in most schools of the necessary weights, measures, and other appliances to properly teach reduction. Mr. Alexander presented the Association library with three volumes sent him by Col. Eaton, Esq., Commissioner of Education in United States. Mr. B. Hal. Brown read a well prepared essay on the "Teacher's influence over pupils before and after school hours." The subject, "To what extent should politics be introduced in the public school curriculum," was then opened up for discussion in an able essay by Mr. G. Lewis, followed by a very interesting and instructive discussion between Messrs. W. Linton, B. Hal. Brown, Chapman, Rogers, McRae, Ballantyne, Groh, Connon, and Knowles. The Secretary of Promotion Examination Committee presented their report as follows:—That the subjects for entrance to the Senior Third and for entrance to the Fourth be the same as they were last year. That the subjects of examination for entrance to the Fifth and entrance to the Sixth Class be the same as they were last year, except in the following:—(*a*) Reading to be tested on some selection other than those contained in the readers; (*b*) Literature for both entrance to the Fifth and entrance to the Sixth the same as that required for entrance to the high schools; (*c*) History of the Roman and Plantagenet line (to end of Richard II.'s reign) for both classes; (*d*) That an option should be allowed in the examination for entrance to the Sixth in the subjects of Algebra and Geometry. If Algebra be taken, the simple rules and simple factoring; if Geometry, the definitions, postulates, and first twenty propositions. The report also recommended that there be no examination for promotion higher than that for entrance to the Sixth Class. In the afternoon an amendment striking out the last clause of report was proposed, and that an examination of Senior Sixth Class pupils similar to that of last year be held. After a spirited discussion between Messrs. Bean, Linton, Erb, Ballantyne, Brown, and Erb, the original report was adopted. A Legislative Committee, composed of Messrs. Knowles, Herner, and Suddaby, was appointed to confer with the Legislative Committee of Provincial Teachers' Association. Report of Management Committee on programme for next meeting was read and adopted. After disposing of some formal business, the Association adjourned to meet on the last Friday and Saturday of January, 1882.

CHAS. A. WINTER, *Sec.-Treasurer.*

REVIEWS.

THE CENTURY MAGAZINE (SCRIBNER'S MONTHLY).—It is sad and strange that Dr. Holland should have died just when his magazine was changing its name. *Scribner's* will enter on its new era with a new editor as well as a new name. The management seem determined to keep it fully up to the best point it has reached in the past. Among many others, we single out the following as specially good articles: "George Eliot," with the only reliable portrait yet issued of the great authoress; "The So-called Venus of Milos," an able discussion of the probabilities as to the true position of the arms in the original statue, with numerous illustrations; "A Curious Experience," by Mark Twain, a story which must not be described, in the interests of the reader; and "My Escape from Slavery," by Fred. Douglas. Mrs. Frances Hodgson Burnett, author of "That Lass o' Lowrie's," "Haworths," "A Fair Barbarian," &c., has begun a new story, "Through One Administration."

HARPER'S MAGAZINE, NOVEMBER.—The Editorial departments are as funny, as wise, and as instructive as usual. There are two good single-number stories, "The Sumach Gatherers" being a very delightful one. The illustrated articles of most interest to Canadians are, "Journalistic London," "In Cornwall with an Umbrella," "The Land of the Midnight Sun," by Paul B. Du Chaillu, and "A Week in a Dug-out." The latter recounts the adventures incident to a trip among the lakes of backwoods Canada. One gets a clear idea of the habits and customs of Cornish people from the second-named article; Du Chaillu makes one long to visit Sweden, Norway, and Lapland; and in "Journalistic London" we are favored with portraits and sketches of Sir Vernon Harcourt, John Walter of the *Times*, John Delane, Dr. Russell (the war correspondent), Edmund Yates, Labouchere, the society scandalist, and other noted London newspaper men.

HARPER'S WEEKLY for October maintains its reputation as an art and literary journal. Attention of teachers is respectfully directed to the Art department, in which portraits of men of note are given. Pupils will remember more concerning a person by seeing the portrait than if the facts are couched in the most eloquent language. The illustrations depicting the final honors paid to the dead President are very truthful. A timely article is given on "American Opium Eaters," which we would desire to see followed by one on "*American Tobacco Eaters.*" The "Methodist Œcumenical Council," "Yorktown Celebration," "Baltimore's Supply of Water," and "Irish Independence," are timely and thoughtful articles.

CIRCULAR ON THE GRADING SYSTEM, FOR THE SCHOOLS OF WISCONSIN, BY W. C. WHITFORD, STATE SUPERINTENDENT, MADISON, WIS. *David Atwood, 1881, page 48.*—This work is an admirable compendium of the subject it professes to discuss. Unlike most programmes of study, which are but bare outlines, this gives a most excellent set of notes upon each subject, not only showing very clearly the amount of work to be done in each grade, but how to accomplish it, by giving very clear, if brief, explanations of the best method of teaching each subject, and also of teaching every stage of the subject. The reader is struck at once with the lively character of the methods recommended. Everything is fresh, crisp, and eminently practical, and recommended to be taught in a way that children love. While there are no hobbies in the work, the subject of Reading seems to be particularly well dealt with, and the advice to cultivate an agreeable voice in pupils a matter too often neglected. Mr. Whitford is evidently a practical teacher, and has done for his State what will no doubt obtain the praise of all interested in education. A similar work for the programme of our schools, with that programme in some respects changed, would be a boon to Canadian teachers.

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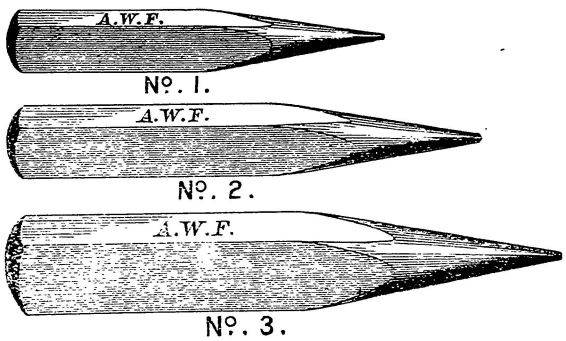

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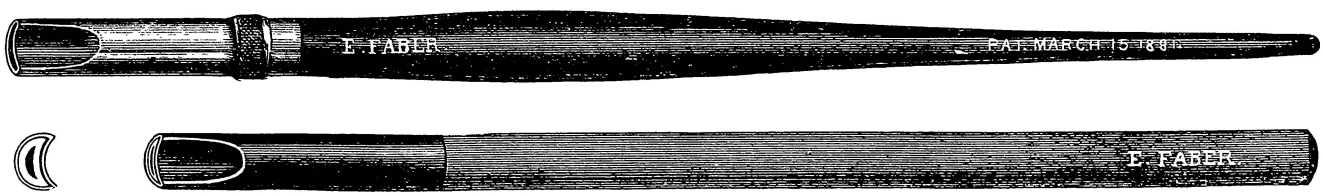

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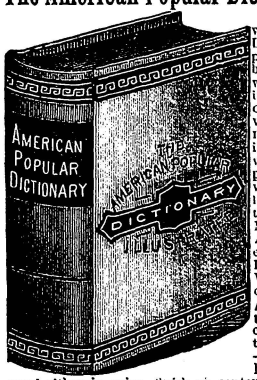

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EDUCATIONAL WORK FOR THE COMING SESSION.

There are several important questions with which the Minister of Education should deal during the next Session of the Ontario Legislature. Among them are the following :

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The 29th Clause of the Amended School Law of 1879 never could have had a place on the Statute book, ahd it not been for a total misunderstanding of the relationship existing between the Trustee Boards and the Councils in cities and towns. These bodies are essentially distinct. Each is elected for a specific purpose. Each has the supervision of certain public work, the proper management of which requires a certain amount of public money. Originally each body collected its own money, and the one had no connection with the other. It was soon evident that this was an expensive method of raising the money needed, as it required two sets of collectors to do the work which one could do equally well, and so in order to save expense it was provided, that the tax collectors of the municipal councils should collect the money required by the School Boards. This gave the councils no responsibility concerning the amount needed for school purposes, and consequently gave them no right to exercise any control in relation to it. The School Boards had just as much right to limit the Councils, as had the Councils to limit the School Boards in raising the funds necessary for the proper carrying on of their work.

In process of time, however, some Councils forgot that they were merely requested to raise the amount needed by the School Boards in order to prevent expense, and began to claim the right to control the expenditure of the School Boards. Unfortunately, the Minister of Education and the Legislature hastily granted the demands made, and the School Boards in cities and towns are now merely sub-committees of the Councils without the privilege of a voice in settling even their own affairs at the general Council Board. The insult thus offered to the School Boards throughout the Province was none the less real, because those who gave it did not comprehend its full extent.

There can be absolutely no justification for the clause either where no accommodation at all has been provided, or where the accommodation is insufficient. In both these cases it is clearly at variance with the clause requiring the municipality to provide adequate accommodation for the children of school age. It is certainly a remarkable fact that the same school law which makes Trustees personally responsible to the ratepayers whose children can not get school accommodation, also gives other men the power to prevent them providing accommodation when necessary.

If it is claimed that Councils are responsible to the ratepayers for the money, there are two ways of removing this objection. The school rate may be inserted separately on the tax bills, or the old plan may be adopted of allowing the Trustees to collect as well as levy their own rates.

It is not necessary that the evil effects of the clause should be explained. They have been felt throughout the length and breadth of the Province. Resolutions calling for its repeal have been passed unanimously by the Inspectors, and by the Provincial Teachers' Association. If it had passed a few years earlier the schools of the country would have been paralyzed to a much greater extent than is possible now, but there is yet time for it to do incalculable evil unless it is repealed.

II.—SUMMER HOLIDAYS.

When a certain class of men in total forgetfulness of their children's best interests, and with the single aim of getting more work out of the teacher, urged the shortening of the summer holidays, they were warned by the intelligent medical men in the Legislature that the results of confining their children in close school-rooms during the warm weather must be injurious. The Minister of Education, however, in order to avoid a wide agitation on the subject, made the shortening of the holidays optional, and promised that the option would be taken away in case only a few sections availed themselves of it. We are not among those who would advocate the repeal of the amendment, because only a small number of schools were kept open for a portion of the regular vacation. The larger the number of School Boards in favor of short holidays, the sooner should the power to shorten them be removed. If the people were all intelligent such a law would do no harm. However the wings of ignorance and greed should be clipped, and we hope Mr. Crooks will deal with this question at once.

It might be wise to allow School Boards some option as to the exact time for closing the schools for holidays. In sections where hops or berries are grown largely, nearly all the children in the districts are required to gather them in their season, and in such cases the schools might well be closed for a couple of weeks, and the summer holidays shortened by that time.

Upper Canada College.

We have no idea that the country will be satisfied to allow Upper Canada College to remain a mere High School, even under the management of Mr. Buchan. The country did not complain about the management of the Institution, but that provincial funds are so largely used in maintaining a school to do High School work mainly for Toronto alone. The question will undoubtedly be raised, and unless Mr. Crooks can establish for the College a function which will be clearly provincial in its character, there seems to be only one solution for it.

Depository Investigations.

For years there have been floating rumors to the effect that a prominent employe in the Education Department has been reaping rich harvests from various fields in connection with the Depository. The most directly productive of these are supposed to have been the map and apparatus departments, although it has been stated over and over again that contractors and book publishers in Canada and elsewhere have been laid under tribute to add to the temporal welfare of the notable official. These rumors may be false slanders, and if they are the party against whom they are directed would have much to gain by a full investigation. We are surprised that he has not demanded an exhaustive enquiry long ago.

It is no secret that towards the close of last session an influential deputation of the reform members of the Legislature waited upon Mr. Crooks in reference to the matter, and that he promised to appoint a Commissioner to investigate the charges made. These charges have been formally made to the Minister of Education by an employe in the Department, whose services have since been dispensed with, but the investigation has not been held. This unpleasant question should be settled, and covering it up temporarily will not settle it.

A LACK IN OUR EDUCATIONAL SYSTEM.

Why should not Public Night Schools be recognized and supported by the Government as well as Public Day Schools? This question is one which forces itself upon those who wish to make State education as perfect as it should be, as perfect as those who support it have a right to expect it to be. We have become so accustomed to associate the name "Public" with the schools conducted during the day, that most people regard the night school as an excrescence, and treat it as a specialty. We hold that the night school is to a large portion of the population of any country as much a necessity as the day school, and that in both as being for the public, and maintained by the public, it has as good a claim to the name "Public" as the day school has.

Many children are unavoidably neglected in their early years, notwithstanding all attempts to secure for them their right to education by compulsory school laws, and by Industrial Schools, where they have been established. The poverty, the wickedness, or the death of their parents may have prevented their attendance at school in early years, and we claim for them the right to receive when older, that which is justly theirs, but which circumstances forced them to lose, when they were young. There is another class of young people who would be greatly benefited by attending night schools. The School Law exercises no compulsion beyond the age of twelve, and many parents take their children from school very soon after they reach that age. It is perfectly clear that they cannot have received a very sound education in so short a time, and facilities should be afforded them for rendering more complete the training begun while attending day schools. In addition to those two classes, there are very many who did not realize the value of learning while at school, and who through their own carelessness failed to secure sufficient education. They learn on entering upon the struggles of life, how deficient they are in power to rise, and are often most anxious to atone for neglect, and to make up as far as possible for opportunities lost. Their claim may not be so strong as that of those belonging to the other two classes, but their country as well as they, would reap benefit from their more thorough training.

It may be said that the School Law in Ontario gives trustees the right to establish night schools. True, but when established they are entitled to recognition, which they do not receive from the Government. We do not claim that in all places School Boards should be compelled to open night schools, as they are to conduct day schools, but we urge the Minister of Education to give a grant to aid those Boards which do conduct night schools. Let them be recognized as a part of the Public School system, and as such let them receive aid on the same basis as schools taught during the day.

It may be argued that night schools can only be conducted in cities and towns, and that it would be unfair to tax the whole country for their support. They might, however, very profitably be opened in villages and even country school-houses. Four or five might be opened in a township, regardless of section boundaries and managed by a Township Board. They would be of immense service to young people in country places, many of whom have comparatively little to do during the winter months. The fact that a peripatetic "writing master" can get a fair attendance almost anywhere in a country district, shows that the sons and daughters of farmers are as fully alive to the necessity for improvement as are the young people in cities and towns.

The fact that in many places the night schools have been only partially successful, does not prove them to be unnecessary, but shows how much they need to be improved and systematized. It does not lead to the conclusion, that it would be wrong to give them Departmental recognition and Government support, but proves that they need such recognition and support in order to a vigorous growth. Let them become a part of the regular School system, let them have the same inspection as the day schools, let them be taught by able teachers, and let them have a carefully selected, partially optional, course of study, and they will not be as irregular and as unsatisfactory as they too often are now.

In several of the cities and towns, and in many country sections, evening schools are conducted now, but they would be better, and others would be opened in many other places, if the

system were placed upon a practical basis. One of our exchanges says:

"Whatever will induce a mortal to abandon idle or vicious habits, or associates; whatever will induce him to take up with himself, to trust himself, to find pleasure in thought, in books or in study; whatever will help to make him a better man for himself, for his family, or for the community, is commendable and worthy to be sustained by all the philanthropic strength of the day. For this reason we advocate the organization in every school system of a night department; not a hap-hazard thing of glittering generalities, but a real, solid, substantial, well-organized, well-officered night school."

FIRST-CLASS CANDIDATES AT NORMAL SCHOOLS.

When it was decided that teachers could obtain First-Class Certificates without additional professional training after that received as Second-Class Candidates, a decisive blow was given to the Normal School in Toronto, and a retrograde step taken, which will do much to prevent the growth of a progressive spirit among the members of the teaching profession generally. It could not be expected that students would attend the Normal School for a year, incurring a considerable expense by doing so, when they could secure equally good certificates at home. If those who attended the Normal School for First-Class training received certificates different from those obtained by others, they would have some inducement to attend. Unfortunately, however, even those who do attend the Normal School as candidates for First-Class Certificates receive no practical professional training. They are not required to teach a single lesson during their course. The result is that our Normal Schools are reduced in power, and are really used to train only Second-Class Candidates.

We are as fully convinced as any one possibly can be, that "teachers are born, not made." So are mechanics, and artists, and doctors. A man of special genius suited to his work may become a good mechanic, a good artist, or a good doctor, by experimenting, but he would have been a much better man in either department, if he had received a special course of technical or professional training in a school suited to that purpose. So a man may become a good teacher without attending a Normal school, but he would have been a much better teacher at a much earlier date, if he had taken a thorough professional training at a good Normal School. We would not allow an apprentice mechanic to experiment with our lumber, or an untrained quack to experiment with our bodies; why should we allow a quack teacher, however great his native abiblity, to gain experience at the expense of the intellects and moral characters of our children?

But the best mechanics learn their trades by working at them. True, *but they do not work alone.* There is the weak point in the argument. Teachers, too, should learn their profession by working at it; but they should learn it under the guidance of skilled teachers, as the mechanic learns his trade by working at it under the guidance of a skilled mechanic.

It has been claimed that after receiving their "Second-Class" training, teachers can read for themselves works relating to education, and thereby become proficient in their work. Reading good books will greatly aid them undoubtedly, but books can never take the place of the living teacher. Works on education require explanation, and there is a positive necessity for a Professor of Education either in the Normal School or elsewhere. It may be that the higher professional training may be more economically done in some other place than in the Normal School. High School Masters require to understand how to teach, and it might be wise to found a University Professorship in Education, so that those who are to rank as First-Class Teachers, either in High or Public Schools, might receive a thorough professional training. In whatever way the end may be accomplished, we maintain that our present system of teacher-training, although strong at the beginning, is weak, lamentably weak at the close, and that an improvement ought to be speedily made. The adoption of the Art School as a part of the Departmental work adds another strong reason for requiring First-Class Teachers to prepare themselves in Toronto.

APPEAL TO FACTS.

No sound system of education, government, or religious doctrine has anything to fear from a thorough and impartial examination of its principles as tested by their practical effects. It is often, however, no easy task thus to determine the true character and estimate the real value of principles. These results require analytic observation, passionless judgment, and the most exhaustive collection of relevant facts which circumstances will allow. It must be borne in mind, too, that amid the complicated social and moral phenomena of the present day it is sometimes difficult to trace the working of the law of cause and effect. The effect of many causes is ascribed to one which may have been the meekest of them all. The true cause is often completely lost sight of, and a false one exalted in its stead. *Post hoc ergo propter hoc* was probably never so prevalent and powerful a fallacy as now.

As this difficulty is likely to increase rather than the reverse, it may be well to point out that the best of causes need discreet advocates and clear-sighted defenders. For instance, devoted as we are to the great and good cause of Public-School Education, we yet freely admit that exaggerated claims are sometimes made in its behalf. Neither justice nor wisdom dictates the policy of ascribing to it all political reforms, all social progress, all moral ameliorations. On the other hand its defenders need not trouble themselves to free it, as respects its practical working, from all imputation of human shortcoming and infirmity. It is rather their duty to distinguish between what is reasonable and what is unreasonable in the criticism of opponents, frankly conceding that no system of popular education has yet attained the standard of ideal perfection.

At the same time we cannot congratulate certain *doctrinaire* obstructionists who have been trying by an assumed argument from facts to impose on the plain common sense of the people on the success of their efforts. There may be minor sophistries requiring for their exposure the painstaking examination to which we have referred, artful argumentative deceits which a plain man might be pardoned for not detecting, but an attempt

to connect the spread of popular education with an alleged increase of crime and immorality is not of that character. Even its careful dressing of logical drapery could not disguise this monstrous falsehood and prevent its immediate recognition. The intuitional common sense of the people has proved sufficient to protect their dearest rights from danger.

THE ONTARIO ART SCHOOL.

We urged, nearly two years ago, the propriety of placing the Ontario Art School directly under the control of the Education Department. The necessity for the recognition of Art as an important department of popular education is making itself felt more and more every year. The Public Schools are beginning to teach drawing in a practical and progressive way, and this is creating a demand for a more extended course in the higher classes in Public Schools and in the High Schools. To give this instruction well, teachers need to be specially trained, and they should receive their training in an institution conducted under Departmental supervision. We are glad to learn that it is the intention of the Minister of Education to have the Art School established in the Departmental Building in Toronto. This will place the school itself upon a much more satisfactory basis. The artists who have so ably conducted the school till the present time at great personal sacrifice, will be relieved from worry and responsibility, while, we trust, they will still be able to retain their connection with the School. The large collection of models, copies, and specimens in the museum, will be of immense value, now that a practical use is to be made of them. This is carrying out the design of the far-seeing man who so long conducted the educational affairs of the Province, and by whose efforts the largest collection of Art material to be found on the continent was gathered.

It is not desirable that the school should be open only for teachers, but it is of the highest importance that all first-class teachers should be compelled to attend its classes. This will form an additional reason for insisting on the attendance of all first-class teachers at the Toronto Normal School for special professional training.

DR. RYERSON.

The many warm friends of Rev. Dr. Ryerson have been kept in constant anxiety during the past few weeks owing to his very severe illness. They will be glad to learn that there are good prospects for the recovery of the aged veteran, whose name is indissolubly linked with the educational progress of Ontario. Although nearly eighty years of age, he has retained in a remarkable degree both mental and physical vigor. His illness was contracted while on his annual shooting expedition to Lake Erie. The weather became suddenly severely cold, and he was too old to resist the effects of the unexpected change. Our readers will join us in wishing him a speedy return to health.

—We regret to learn that Mr. P. A. Switzer, the efficient Inspector of Schools in Parry Sound and Algoma District, is unable to attend to his duties through illness. We hope to hear shortly of his speedy recovery.

—Mr. A. L. Parker, M.A., Classical Master, Collegiate Institute, Collingwood, is about leaving. That town will thereby suffer a loss which the School Board will find it difficult to replace, for Mr. Parker's high, scholarly attainments and invariable success as an active and painstaking teacher have won for him considerable renown in the profession. Whatever position he may subsequently occupy we are sure he will grace it with those high qualities for which he was distinguished in Collingwood.

—Rev. Mr. Pinkham, Chief Superintendent of Protestant Schools, Manitoba, desires us to state that Ontario First-Class Certificates, obtained under the new regulations, and any other Certificates which may be considered equivalent to them may be permanently endorsed by him; and also, that he is authorized to endorse till the ensuing examination other *bona fide* Teachers' Certificates obtained in any part of the Dominion, or in the Old Country, but the usual certificate of good moral character must be presented. The next examination of Teachers in Manitoba takes place in August.

—It gives us much pleasure to observe that Mr. J. A. McMillan, M.A., formerly Classical Master, has been appointed Principal of the Ottawa Collegiate Institute, in place of Dr. Thorburn who has resigned. As a scholar and indefatigable teacher Mr. McMillan takes a high position, and the Ottawa School Board has acted wisely in placing him in charge. He is also well known throughout Canada as the editor of a text-book on English Grammar, namely, the Revised Edition of Miller's Swinton's Language Lessons; a book which has during the past few years, reached the enormous sale of 200,000 copies. It is proposed to give to the staff of University men in classics an increase of $100, and to appoint an assistant at $700.

—Mr. Wm. Rothwell, who for nearly ten years has been first assistant in Brantford Collegiate Institute, was appointed lately to the headmastership of the Perth Collegiate Institute, at a salary of $1,200. During the time Mr. Rothwell has been in Brantford he has won golden opinions, not only from his fellow-teachers, by whom he is greatly respected, but also from the citizens of Brantford whose expressions of regret at his leaving are mingled with congratulations at his well-merited promotion. His quiet, unobtrusive, but most effective manner, combined with sound scholarship and well-formed principles in the art of teaching, give him all the elements requisite to make his success in his new position as decided and recognized as it has been eminently so in Brantford. We wish him every success. He will be assisted in Perth by Mr. John Fawcett, Teacher of Science and English; Mr. H. L. Slack, Classical Master,—salaries of each $700; and Mr. A. W. Burt, Modern Languages, salary $600.

—The attention of Teachers is directed to our notice in another column of Adams' Historical Chart, which is a marvellous means of presenting the history of the world in a comprehensive and attractive form. Schools and Colleges will find it a valuable adjunct to book work in history as it presents to the eye the leading characteristics of biblical, ancient, and modern history in correlative epochs, centuries and decades, in a most impressionable manner.

Correspondence.

THE TONIC SOL-FA SYSTEM.

To the Editor of the CANADA SCHOOL JOURNAL.

May I ask your earnest attention to a few facts concerning the Tonic Sol-Fa system? You will notice that advocates of that system, unlike their opponents, do not waste time with mere words, theories and suppositions, but go straight to the point with "thus and so has been accomplished and proved." They ask no favors or concessions because they hold the truth, and the truth needs no tender consideration. It only asks for unprejudiced investigation.

Here are the facts which must be set aside before any one has a right to oppose the system of which such things can be said.

1. Of the hundreds of thousands of teachers and pupils who have begun to use Tonic Sol-Fa *not one* has ever been found to afterwards renounce it.

2. Of those hundreds of thousands *not one* has failed to realize and acknowledge that the value of the system became more apparent to them the farther they continued in its use.

3. Of those hundreds of thousands *not one* has failed to find (and often with great surprise) that Tonic Sol-Fa leads to the most intelligent knowledge of the staff, and to its surest use as a medium for reading music. The general verdict is, that it saves one-half the time in learning to read music from the staff.

Now will the JOURNAL state definitely how much value should be set upon the *arguments* of those who have never used the system as against the foregoing *facts* presented by those who have? Will the JOURNAL permit me to say with some degree of warmth that the opposing of invariable fact by mere influences is becoming very much like child's play. It is unworthy of the subject; it is unworthy of the position of many who do it. All that Tonic Sol-Fa asks is a fair trial. With such a history as it has had, and such an array of statistics as it gives in evidence of its uniform success, justice to the public, justice to the whole human race with its innate love of music demands that such a trial shall be made before the system is rejected.

The inference drawn by the October JOURNAL from the success of a few cities in their systems of musical instruction does not "cover the ground." In a recent number of the Tonic Sol-Fa Advocate I printed the following sentence: "The time is not far distant when it will be considered as absurd to teach music by the staff notation as to teach a child to read by the use of a dictionary." That comparison is a fair one, the only difficulty being that it does not put the case strongly enough.

Now, suppose it was the custom to teach reading by or with a dictionary, and suppose nine-tenths of the people of Canada never succeeded in learning to read would the fact that many or even most of the pupils in a few large cities learned to read be any proper argument for the general introduction of the dictionary method? The cases are strictly parallel. Nine-tenths of the people in the United States cannot read music. Therefore the prevailing method of instruction is a failure. The comparative success in a few individual cases where the conditions are more favorable than they can possibly be on the average does not alter the truth of the above statement.

Here is a fair summing up of the case.

1. The staff method in America is a failure. A large proportion of those who begin the study of music by that method never gain an intelligent knowledge of the subject or acquire the ability to sing at sight.

2. The Tonic Sol-Fa system in England is a success. All who study it grow rapidly in musical intelligence, and become sight readers.

Mr. Curwen's statement has been explained by his son, Mr. J. S. Curwen. If he had known Lowell Mason's system he might have adopted it, but *not* knowing it, he considered that he had been led to the development of a system that was of incalculably greater value to the human race. This he firmly believed to the end of his life, and his belief is shared by *every one* who has used the system.

T. F. SEWARD.

New York, Nov. 1881.

Contribution.

HINTS TO LADY TEACHERS.

READ BY MISS R. WOOD BEFORE THE TEACHERS OF THE COUNTY OF HALDIMAND.

In attempting to offer some hints to the lady teachers present, I am sure that I will be pardoned by them for so doing; my object is not that I presume to possess any superior qualifications, but as I have spent now nearly eight years in active work in the profession, and have been fairly successful, I hope that I can advance a few suggestions that may assist you in your work—thoughts that may increase our interest in our profession, and help us to bring to our work patience and perseverance, hope and courage.

Teaching is one of the few professions in this country available to women, and even in this I think we are placed at a disadvantage. We have to write on precisely the same examinations as the gentlemen, and exactly the same percentages are required of us; but the opinion is very general, that we should not receive the same remuneration for our services, even when as well performed. Now, who is to blame for this unjust condition of public opinion? The lady teachers themselves, to a great extent, are surely to blame. So many girls are educated with such false notions of their object in life, that many who enter the teaching profession seemingly enter it with no love for the work, but they find in it a means whereby they can make alittle money, and leave it at the earliest possible opportunity. Those who enter with such notions usually accept small salaries, and when trustees have the option of choosing from quite a number, and can get the majority of them at low figures, there is very small chance for those who are laboring for success in teaching to get much of an advance on prevailing salaries. Now my idea of a true worker, either male or female, is that of one who makes duty his or her watchword, and who will, if entrusted with any work, prove worthy of the trust in all respects. I find that the best part of my life lies in the performance of my daily duties, and that with these performed rightly I can enjoy true happiness. Let us strive to feel that our success in life bears a direct proportion to the exertions we make, and that if we aim at nothing we shall surely achieve nothing. I have never known real merit in teaching or anything else to fail in receiving appreciation, and I think that we can, if we only strive to do so, make others feel that we are worthy of more than the scanty remuneration that is tendered to so many women at the present day. Let us be ambitious to excel in our work, not merely doing it in a mechanical way, but introducing so much of spirit therein that we receive the names of good workers as well as good teachers. Some may say, are we to work ourselves past our strength for the purpose of acquiring a competency? I have never known hard work to injure any of my lady friends who took judicious care of themselves when teaching, and I feel convinced that work properly performed strengthens body, mind, and character,—late hours, and improper food and clothing, injure far more than their school exertions do. Let us honor our profession, and seek to elevate it at all times. I think those who speak slightingly of their work, whatever it may be, prove themselves unfitted for its responsibilities and lower themselves far more than they do their profession.

The remark is frequently made of us, that we fail in school government; again I say it is our own fault if we do. Firmness, kindness, and work fully prepared, are the essentials of success in any teacher. Make yourself complete mistress of the school from the very first; let the children see that you understand your work and are prepared to do it. Nor need you be hard-hearted—no true woman is ever *hard*; but she can be strong, if she seek her strength in true service. In order to have command of your school, have the mastery of self, and do not allow yourself to exhibit passion, even with provocation. Do not be continually scolding—it is only worrying to yourselves, and not at all beneficial to your pupils. Make few rules,—no more than necessary for the good government of your school-room, and see that those you make are carried out. Insist on instant obedience. Children will see very quickly whether it is possible to take any liberties or evade any commands: therefore, if you tell a child to do anything, see that he does it, or you will forfeit his respect by your leniency. Study your pupils' inclinations, find out their tastes, and take advantage of them. You will also find that children can be managed easier if you get an insight into their dispositions. Let your pupils always find in you a friend who is willing to assist them in all that is for their best interests. Do not act as if you thought any of your pupils were really bad; trust them, and even if they have bad habits they will be the better for your confidence. Curb evil inclinations in speech or action, and strive to make your pupils love the truth and abhor falsehood and deception. Do not give all your attention to the bright pupils and strive to crowd a certain number through the examinations. I have heard teachers say they judged of a school's progress by the number of pupils it sent up to High School Entrance, and other examinations. My idea of a successful school is that of one in which every pupil is improving, and I think that the other opinion is not a right one, as we have not the same material to work with. It does not require much talent to instruct a child keen for knowledge, but to arouse an interest in a dull pupil requires more than an effort on the teacher's part. Besides, with many of us, particularly those of us in the rural schools, what a small proportion of our pupils will ever have the opportunity of attending any but a public school. Consider what is best for your pupils; some of them at most have only a few years at school; let their time be given to such subjects as will fit them for the active work of life in which they will have to engage—such subjects as will make them good common-sense men and women, who can speak and write good English and appreciate it. In after years, if not now, they will be able to thank you. Keep a strict oversight of school-house and surroundings,—nothing speaks worse of a teacher than to allow things to go to ruin generally. Trustees also find their labors far easier with a teacher who keeps things in order, and they make a point of it in engaging a teacher. Make your school-room look as cheerful as possible; children are quick admirers of the beautiful, and the adornment of our school-rooms has a refining influence. Take a good educational paper; having once had one, you will find that you cannot keep pace with the educational tendencies of the age without its help. Get as many books as you can on your different school subjects, and in preparing your work you will be able to introduce much of variety as well as true interest in every branch. Arrange your programme in such a manner that your pupils shall have constant profitable occupation. Childhood is all activity, and if you engage the active tendencies of your pupils constantly, you will not find them getting into mischief.

Lastly, let us strive to throw as much sunshine into our work as possible, and to make our pupils feel that school is not a place where the "rod reigns," but that it is a place where they may be sure of an approving smile and an encouraging word for all their honest endeavors. And when it is ours to quit our present occupation, whether we go to fill earthly homes, or pass to our long, last home, it will be with the pleasing satisfaction of having done our best in that sphere of life in which it has pleased God to place us.

Mathematical Department.

SOLUTIONS TO EXAMINATION PAPERS, JULY, 1881.

FIRST CLASS, GRADE C.

ALGEBRA.

1. (1) Given $x^2+y^2+z^2+2xyz=1$, transposing and adding x^2y^2

$$(z+xy)^2=1-x^2-y^2+x^2y^2$$
$$=(1-x^2)(1-y^2), \text{ and by analogy}$$
$$(y+xz)^2=(1-x^2)(1-z^2)$$
$$(x+yz)^2=(1-y^2)(1-z^2)$$

From which we have

$$z^2+xyz=z\{(1-x^2)(1-y^2)\}^{\frac{1}{2}}$$
$$y^2+xyz=y\{(1-x^2)(1-z^2)\}^{\frac{1}{2}}$$
$$x^2+xyz=x\}(1-y^2)(1-z^2)\}^{\frac{1}{2}}$$

Adding up and substituting 1 for $x^2+y^2+z^2+2xyz$ we have the required relation.

(2) $x^2+y^2+z^2+2xyz=1$

or, $(x+y)^2=(1-z)(1+z+2xy)$

i.e., $\dfrac{x+y}{1-z}=\left(\dfrac{1+z+2xy}{1-z}\right)^{\frac{1}{2}}$ and by analogy.

$$\frac{y+z}{1-x}=\left(\frac{1+x+2yz}{1-x}\right)^{\frac{1}{2}}$$
$$\frac{z+x}{1-y}=\left(\frac{1+y+2zx}{1-y}\right)^{\frac{1}{2}}$$

Adding up we have the required relation.

2. (1) Subtracting we have $x=0$ and $2x=y$

Substitute these values and $y=\pm\sqrt{13}$ or ± 2, $x=\pm 1$.

(2) Put $(1+x)^{\frac{1}{n}}=K$, $(1-x)^{\frac{1}{n}}=m$, and hence $(1-x^2)^{\frac{1}{n}}=Km$ and we see that the given equation is a quadratic:

$$K^2-Km-m^2=0, \text{ whence } K=m\left(\frac{1\pm\sqrt{5}}{2}\right)$$

i.e., $\dfrac{K}{m}=\left(\dfrac{1+x}{1-x}\right)^{\frac{1}{n}}=\dfrac{1\pm\sqrt{5}}{2}\Big)$

$$\therefore\ x=\frac{(1\pm\sqrt{5})^n-2^n}{(1\pm\sqrt{5})^n+2^n}.$$

3. If a is a root of $f(x)=0$, then by definition of root

$$f(a)=0$$

And when $f(x)\div(x-a)$ the remainder is $f(a)$.

See Colenso's Algebra, Part II., page 163. Gross, page 11, Appendix to Part I.

Let x, α and β be the roots

$$\therefore\ x^3-13x^2+\tfrac{49}{4}x-3=(x-\alpha)^2(x-\beta$$
$$=x^3-x^2(2\alpha+\beta)+x(\alpha^2+2\alpha\beta)-\alpha^2\beta$$

$\therefore\ 13=2\alpha+\beta$, $\frac{49}{4}=\alpha^2+2\alpha\beta$, and $3=\alpha^2\beta$

And $\alpha^2+2\alpha(13-2\alpha)=\frac{49}{4}$ $\quad\therefore\ \alpha=\frac{1}{2}$ or $\frac{49}{6}$

$\beta=12$ or $-\frac{10}{3}$

But the second pair will be found inapplicable to this equation. Similarly

$$x^4-10x^3+32x^2-38x+15=(x-\alpha-1)(x-\alpha+1)(x-\beta-2)(x-\beta+2)$$
$$=\{(x-\alpha)^2-1\}\{(x-\beta)^2-4\}$$
$$=\text{etc.}$$

Whence, equating coefficients $\alpha=2$, $\beta=3$ and the roots are 1, 3, 1, 5, and other roots which do not apply.

It is generally easy to factor such equations when they have any rational roots. Thus in the latter the factors of 15 are 1, 3, 5, and 15 must = product of all the roots, hence we may try $x\pm1$, $x\pm3$, $x\pm5$ as divisors, and the equation splits up into $(x-1)^2(x-3)(x-5)=0$. Hence the roots.

See McLellan's Algebra, page 92, *et seq.*

Regarding the roots which do not apply see Colenso's Algebra, Part II., Section 43.

4. Put $S = 1^2 + 2^2 + 3^2 +$ etc. $+ n^2$. If $n = 0$ $S = 0$. $\therefore$ n is a factor of S.

Assume $1^2 + 2^2 + 3^2 +$ etc. $+ n^2 = An + Bn^2 + Cn^3 +$ etc., for all values of n.

$\therefore$ $1^2 + 2^2 + 3^2 +$ etc. $+ n^2 + (n+1)^2 = A(n+1) + B(n+1)^2 + C(n+1)^3 +$ etc.

Subtracting, $(n+1)^2 = A + B(2n+1) + C(3n^2+3n+1) +$ etc.

Equating coefficients $1 = 3C$, $2 = 2B + 3C$, $1 = A + B + C$

Whence $A = \frac{1}{6}$, $B = \frac{1}{2}$, $C = \frac{1}{3}$

And $S = \frac{1}{6}n + \frac{1}{2}n^2 + \frac{1}{3}n^3 = \frac{1}{6}n(n+1)(2n+1)$

5. (1) Book-work.

(2) Let $S = a + (a+b) + (a+2b) +$ etc. $+ \{a + (n-1)b\}$

Reversing, $S = \{a + (n-1)b\} + \{a + (n-2)b\} +$ etc. $+ (a+b) + a$

Adding, $2S = 2a + (2a+nb) + (2a+nb) +$ etc., n terms

$= n(2a) + (n-1)nb$

i.e., $S = \frac{n}{2}\{2a + (n-1)b\}$.

6. (1) Let $S = 1 + 3x + 5x^2 +$ etc. $+ (2n-1)x^{n-1}$

$\therefore$ $Sx = x + 3x^2 +$ etc. $+ (2n-3)x^{n-1} + (2n-1)x^n$

i.e., $S(1-x) = 1 + 2x + 2x^2 +$ etc. $+ 2x^{n-1} - (2n-1)x^n$

adding and subtracting x^n

$$= (1 - x^n) + 2x(1 + x^2 + x^2 + \text{ etc. } + x^{n-2} + x^{n-1}) - 2nx^n$$

$$= (1 - x^n) + 2x\frac{1 - x^n}{1 - x} - 2nx^n$$

$$\therefore\ S = (1 - x^n)\left\{\frac{1}{1-x} + \frac{2x}{(1-x)^2}\right\} - \frac{2nx^n}{1-x}.$$

$$= \frac{(1-x^n)(1+x)}{(1-x)^2} - \frac{2nx^n}{1-x}$$

$$= \frac{(1+x) - (2n+1)x^n + (2n-1)x^{n+1}}{(1-x)^2}$$

If the series were infinite we see that $S = \frac{1+x}{(1-x)^2}$

(2)

1st	1
2nd	2+3
3rd	4+5+6
4th	7+8+9+10
etc.	etc.

nth $\left(1 + \frac{n(n-1)}{2}\right) + \left\{2 + \frac{n(n-1)}{2}\right\} + \left\{3 + \frac{n(n-1)}{2}\right\}$

$+$ etc. (n terms) $+ \left\{n + \frac{n(n-1)}{2}\right\}$.

Arranging as above, we see that the first term of each group = (sum of all numbers in left hand column except its own) $+1$

$\therefore$ the nth group is as above, and

Sum of nth group $= \left\{n + 1 + n(n-1)\right\}\frac{n}{2} = \frac{n(n^2+1)}{2}$

Sum of 1st n groups $= 1 + 2 + 3 +$ etc. $\left[\frac{n(n+1)}{2} \text{ terms}\right]$

$$+ \ldots\ldots \frac{n(n+1)}{2}$$

$$= \left\{1 + \frac{n(n+1)}{2}\right\}\left\{\frac{n(n+1)}{2}\right\}\frac{1}{2}$$

$$= \left\{\frac{n(n+1)}{2} + \left(\frac{n(n+1)}{2}\right)^2\right\}\frac{1}{2}$$

Again,

1^3	$= 1$	$+ 0$
2^3	$= 2+3$	$+ 1+2$
3^3	$= 4+5+6$	$+ 3+4+5$
4^3	$= 7+8+9+10$	$+ 6+7+8+9$
5^3	$= 11+12+13+14+15$	$+ 10+11+12+13+14$
etc.^{3}	$=$ etc.	$+$ etc.
n^3	$=$ etc.	$+$ etc.

Sum $=$ (sum of n groups) $+$ (sum of n groups) $-$ (last term)

$$= \frac{n(n+1)}{2} + \left\{\frac{n(n+1)}{2}\right\}^2 - \frac{n(n+1)}{2}$$

$$= \left\{\frac{n(n+1)}{2}\right\}^2$$

In a similar way we might infer the sum $1^2 + 2^2 + 3^2 + \ldots\ldots n^2$.

$1^2 = 1$, $2^2 = (2+3) - (1)$, $3^2 = (4+5+6) - (1+2+3)$, $4^2 = (7+8+9+10) - (3+4+5+6)$ etc.

7. (1) Book-work.

(2) 3 sets $+$ 10 books $=$ 13 things, which give $\lfloor 13$ variations

1st set gives $\lfloor 5$, 2nd gives $\lfloor 3$, and 3rd gives $\lfloor 2$ variations

$\therefore$ on the whole we have $\lfloor 13$, $\lfloor 5$, $\lfloor 3$, $\lfloor 2$ variations.

If each set may be arranged from either end, then each set will give two arrangements instead of one as above,

i.e., $2\lfloor 5$, $2\lfloor 3$ and $2\lfloor 2$, and the total number will be $\lfloor 13$, $\lfloor 5$, $\lfloor 3 \times 2^4$.

8. Altogether there are $4n+2$ points, or deducting A and B, $4n$ points. Each line parallel to AB will contain 4 points.

Take any point in the first circle and join it with two points in the second circle. This may be done in $\frac{2n(2n+1)}{\lfloor 2}$ ways.

Hence, for the whole $2(2n+1)$ points the number of possible triangles is $2(2n+1)\frac{2n(2n+1)}{\lfloor 2}$. But as there are n lines parallel, $4n$ triangles will vanish.

Hence, total number of triangles $= 2(2n+1)\frac{2n(2n+1)}{\lfloor 2} - 4n$

$= 2n(2n+1)^2 - 4n$.

9. Book-work.

10. (1) The $(r+1)$th term of $(1-x)^{-\frac{p}{q}}$

$$(-1)^r \frac{p(p+q)\ldots\{p+(r-1)q\}}{\lfloor r \cdot q^r} x^r$$

Hence, for $(1-x)^{-\frac{3}{2}} = (-1)^r \frac{3 \cdot 5 \cdot 7 \cdot \cdots (2r+1)}{\lfloor r \cdot 2^r} x^r$

Multiply numerator and denominator of coefficient by $\lfloor r$ and 2^r.

it becomes $= \frac{\lfloor 2r+1}{\lfloor r)^2} \cdot \frac{1}{2^{2r}}$.

(2) We have $a_0 = 1$ $a_1 = \frac{n}{1}$, $a_2 = \frac{n(n-1)}{\lfloor 2}$, $a_3 = \frac{n(n-1)(n-2)}{\lfloor 3}$

$\therefore$ $\frac{a_1}{a_0} = n$, $\frac{2a_2}{a_1} = n - 1$, $\frac{3a_3}{a_2} = n - 2$ etc.

$\therefore$ $S = n + (n-1) + (n-2) + \ldots\ldots n$ terms $+ 2 + 1 = \frac{n(n+1)}{2}$.

ANSWERS TO CORRESPONDENTS.

We have received from W. Braithwaite, Unionville, the following proposed solution of No. 4 in the First-Class Arithmetic, of which solutions were given in this department last month:

	\$90	due in	40 days.	
	\$90	"	101	"
$\therefore$	\$180	"	$70\frac{1}{2}$	" (equated time).
Disct. on	\$180	for	$70\frac{1}{2}$	" $= \frac{2}{100}$ of \$180 $=$ \$$3\frac{3}{5}$.
"	180	"	365	" $= 3\frac{3}{5} \times \frac{365}{70\frac{1}{2}} = \frac{2628}{141}$
Or Int. on	$176\frac{2}{5}$	"	1 year	$= \frac{2628}{141}$
$\therefore$	"		100 or per cent	$=$ \$10.56+

This is shorter than our solution but is not strictly accurate. Like several published solutions of this problem, it assumes interest equal to discount, viz., that the interest on \$90 paid $30\frac{1}{2}$ days after it is due $=$ the discount on \$90 paid $30\frac{1}{2}$ days before it is due. It is doubtful whether a candidate for First-Class would receive full marks for an answer only approximately correct. In this particular question the sums are so small and the times so short that the difference between mathematical discount and bank discount is only very small, yet the principle of putting interest $=$ discount is scarcely accurate, though it saves some labor in the calculation.

General Information.

An Electric Railway from Berlin to Lichterfeld has been successfully opened. The rails are insulated from the earth by wooden sleepers, and are in electrical connection with a dynamo-electric machine worked by steam power at a station. A magneto-electric machine on the driving carriage or locomotive is so fixed and connected with the axle of one pair of wheels as to impart motion to it, the driving axle being severed electrically by introducing an insulated washer, and a current of electricity, passed along one rail to work the magneto-electric machine on the locomotive, returns by the other rail to the stationary machine on the ground. The rate of speed attained was eighteen miles an hour.

GIANTS.—We of the present day are mere "Tom Thumbs" when compared with the huge individualities of antiquity. Near Mazerine, in Sicily, in 1516, was found the skeleton of a giant thirty feet high. His head was the size of a hogshead, and each of his teeth weighed five ounces. In 1630, near a castle in Daughin, a tomb was found thirty feet long, twelve wide, and eight high, on which were cut the words, "Keutolochus Rex." The skeleton was found entire, twenty-five feet and a half long, ten feet across the shoulders, and five feet deep from the breast-bone to the back. Near Palermo, in Sicily, in 1548, was found the skeleton of a giant thirty feet long, and another thirty-three feet high, in 1550. The Giant Buart was twenty-two and a half feet high; his bones were found in 1705, near the banks of the river Moneri. In 1614, near St. Germain, was found the tomb of the Giant Isoret, who was twenty feet high.

THE BRITISH QUEEN.—The Queen alone can create a peer, baronet, or knight, and confer privileges on private persons. She alone can erect corporations, and raise and regulate fleets and armies. She is the head of the Church; she convenes and dissolves all ecclesiastical synods and convocations, and nominates to vacant bishoprics and other Church offices. She sends ambassadors to foreign States, receives ambassadors at home, makes treaties and alliances, and declares war and peace, though her power in these respects also is in a large degree limited by the power of Parliament to enact or reject such laws as may be necessary to make it effective. As is well known, the Queen appoints her own advisers, irrespective of the approval of Parliament, and though popularly the Ministry is supposed to possess the whole executive power, no important measure is presented by them to the consideration of Parliament through the channel of the Ministry, and Parliament may originate and pass acts at its pleasure, subject to the constitutional right of the Queen to nullify them by her veto. The Queen can convene Parliament and terminate its sessions at will. There have been but two instances in which the Lords and Commons have met by their authority, namely, previous to the restoration of Charles II., and at the Revolution of 1688.

A youth at Dundee has undergone a very strange and unwonted experience, adding one more illustration to the oft-repeated truth that the inventions of fiction are, after all, frequently outdone by the actual occurrences of work-a-day life. At the public swimming baths in the place named, the water is let off at low tide into the river, previous to the inlet of a fresh supply from tanks on the premises. While the process of depletion was going on one day recently, a lad, in contravention of the rules and regulations of the establishment, plunged into the bath. To the horror and consternation of all present, he did not "turn up" again on the surface, in accordance with those results which usually follow the performance of "a header," and no long time had elapsed when he put in an appearance in a very sorry plight, nude, scared, and much "abraded" as to his epidermis, to tell the story of his mysterious exit and thus prompt return. The strong suction of the water in its disgorgement had dragged the swimmer unprepared into its whirling vortex, propelled him, like a bullet through a small-bore rifle, down some thirty feet of pipe, whose cavity did not exceed twelve inches in diameter, and finally shot him, breathless and bewildered, scarred and scraped, into the unexpectant Tay. He unfolded to a sympathetic, if not admiring, audience, the record of this dark page in his life's early history.

THE phrase "He's a brick" which is often used by boys is said to have had its origin in the following way: On a certain occasion an ambassador from Epirus, was shown by the king of Sparta, over his capital. The ambassador knew of the monarch's fame—knew that though nominally only king of Sparta, he was ruler of Greece; and he had looked to see massive walls rearing aloft their embattled towers for the defence of the city, but he found nothing of the kind. He marvelled much at this, and spoke of it to the king. "Sire," he said, "I have visited most of the principal towns, and I find no walls reared for defence. Why is this?" "Indeed, sir ambassador," replied Agesilaus, "thou canst not have looked carefully. Come with me to-morrow morning and I will show you the walls of Sparta." Accordingly, on the following morning, the king led his guest out upon the plain where the army was drawn up in full array; and pointing proudly to the patriot host, he said, "There thou beholdest the walls of Sparta—ten thousand men, and every man a brick."

WOOD PULP.—Any white, soft wood may be used. The bark is taken off, the knots and dark and decayed places cut out. It is then put into a large cauldron and boiled, which extracts all the glutinous matter and resin, and renders it soft. It is then put on a large stone grinder, with water pouring on it all the time. The grindstone wears off the fibres until they are finer than sawdust, which floats away into a receptacle. The water is drained off by means of a fine sieve, leaving the pulp, which consists of a fine fuzz of splinters of wood. It is white, and requires no bleaching, but is ready to be mixed with rag pulp or anything else that has a strong fibre, and receive the proper constituents to make a paste, after which it is run off into paper sheets; whereas rags have to be washed and bleached with chloride of lime, soda ash, and alum, and such strong chemicals, to take out the color. Then they are picked to pieces and made into pulp. The process by which wood pulp is made is purely mechanical.

LUCIFER matches are now rarely heard of; the term was once much used; it means "light-bearing." The inventor of them was Isaac Holden; he was at the time a teacher in an academy at Reading, England, and gave lectures on chemistry. He says that about 1829 he was accustomed to rise early in the morning to pursue his studies, and to strike a light used a flint and steel. By striking the flint and steel together a spark was produced; this fell on sulphur and set it on fire. The idea occurred to him to get a spark of fire from some explosive substance, and he used chlorate of potash. This he showed to his class. One of his pupils wrote to his father, a London chemist, and soon matches were made that gave light themselves, and were called "lucifer matches," a very appropriate name. You see the spark is made by the explosive potash, and that burns the sulphur which sets the wood on fire.—*Scholar's Companion.*

SCIO.—Scio (or Chio), the island in the Grecian Archipelago which has been visited by a terribly destructive earthquake, involving the loss of several thousand lives, has an area of four hundred square miles, and is separated from the coast of Asia Minor by a strait seven miles wide. Its civilization and fame are as old as the mythical period of Greek history. Among the seven cities that claim the honor of being the birthplace of Homer, Scio, the capital of the island, was one. When Pan died and the oracles of Dodona became silent; when the curtain fell on the strange, pathetic, beautiful, and romantic story of the old days of pagan mythology, the spirit of life and music that filled the days of Scio with beauty seemed to die and pass away with the departure of her gods.

THE SNAIL.—Several years ago an Egyptian desert snail was received at the British Museum. The animal was supposed to be dead, as no traces of life could be seen, and the specimen was gummed, mouth downward, on a table, duly labelled and dated, and left to its fate. Four years later the tablet was placed in tepid water and the shell loosened, when the snail, which was not dead but sleeping, suddenly resuscitated himself, and began walking around the basin. He then sat for his portrait, which may be seen of life-size in Mr. Woodward's "Manual of the Mollusca." During these four years the snail had never eaten a mouthful of any kind of food, yet he was quite as well and flourishing at the end of this long period as he had been at the beginning.

The following words are often mispronounced. It will be well for the young reader to look them out in the dictionary, and fix the right sound and accent: Usually, zoology, yolk, virago, turbine, tour, trow, tiara, thyme, telegraphy, tassel, suit, strata, soot, sonnet, soiree, salmon, romance, robust, repartee, raspberry, pristine, radish, rapine, prairie, polonaise, plateau, pianist, piano-forte, orang-outang, Orion, orchestra, nausea, naivete, mogul, libertine, leisure, jaguar, heinous, homœopathy, height, giraffe, ghoul, finesse, European, equipage, encore, ducat, dishabille, Ægean Sea, Marmora, Mount Cenis, Moscow, Potosi, Port Said, Pompeii, Odessa, Nueces, Edinburgh, Ecuador, Ivry, Messina, Bombay.

It is well known that certain fowls fill their digestive apparatus with gravel and pebbles, which act as millstones in grinding up their food. Recent investigation shows that other animals are addicted to similar habits on a larger scale. Seals swallow stones weighing from one to two and sometimes even three pounds each, while one investigator found, not long since, ten pounds of these boulders in the stomach of a sea lion.

Examination Questions.

JULY EXAMINATIONS, 1881.

FIRST CLASS TEACHERS.—Grades A and B.

(Continued from last month.)

CORIOLANUS.

Time—Two Hours and a Half.

Examiner—John Watson, M.A., LL.D.

1. Classify the plays of Shakspeare. Explain and defend the principle of your classification.

2. Discuss the question as to the date of *Coriolanus.*

3. From what source did Shakspeare get his materials for this play? Mention any instance in which he has made a free use of those materials, and any instances in which he has expanded a hint into a character.

4. "The subject of the whole play is not the exile's revolt, the rebel's repentance, or the traitor's reward, but above all it is the son's tragedy." Give the evidence that may be found in the play itself for each of the views indicated. Which view seems to you the most reasonable?

5. Estimate the character of Coriolanus, giving references, special or general, to the passages which seem to bear out your interpretation.

6. *Bru.* All tongues speak of him, and the bleared sights
Are spectacled to see him : your prattling nurse
Into a rapture lets her baby cry
While she chats him : the kitchen malkin pins
Her richest lockram 'bout her reechy neck,
Clamb'ring the walls to eye him : stalls, bulks, windows,
Are smother'd up, leads fill'd, and ridges hors'd
With variable complexions; all agreeing
In earnest to see him : sled-shown flamens
Do press among the popular throngs, and puff
To win a vulgar station : our veil'd dames
Commit the war of white and damask, in
Their nicely-gawded cheeks, to the wanton spoil
Of Phœbus' burning kisses ; such a pother,
As if that whatsoever god who leads him,
Were slily crept into his human powers,
And gave him graceful posture.
—*Act II.*, *sc.* 1, *ll.* 197–211.

(1) Rewrite this passage, so as to bring out the exact meaning of each word.

(2) 'Rupture' and 'chats of' or 'chats to' have been proposed in place of 'rapture' and 'chats.' (Ll. 197–8.) Do you regard these changes as necessary or reasonable? Explain.

(3) Write explanatory notes on 'malkin,' 'lockram,' 'bulks.'

7. Let me twine
Mine arms about that body, where against
My grained ash an hundred times hath broke,
And scarr'd the moon with splinters.
—*Act IV.*, *sc.* 5, *ll.* 105–8.

——Commanding peace
Even with the same austerity and garb
As he controll'd the war.
—*Act IV.*, *sc.* 7, *ll.* 43–5.

Name the figure of speech in 'scarr'd the moon with splinters' and 'even with the same austerity and garb.' Illustrate each by a quotation from Shakspeare or some other writer.

8. *First Serv.* Let us have war, say I : it exceeds peace as far as day does night : it's spritely, waking, audible, and *full of vent.*
—*Act IV.*, *sc.* 6, *ll.* 219–21.

Rights by rights fouler, strengths by strengths do fail.
Act IV., *sc.* 7, *l.* 55.

Explain the meaning of the words in italics, as you understand them.

ANCIENT HISTORY AND GEOGRAPHY.

Time—Two Hours and a Half.

Examiner—J. M. Buchan, M.A.

1. Give an account of the growth of the Athenian empire from the formation of the Confederacy of Delos to the Thirty Years' Truce between Athens and Sparta.

2. What is Cox's view of the subject of the mutilation of the Hermai, just before the departure of the Athenian expedition against Sicily.

3, Sketch, after Mommsen, the constitution of Rome in the period between the First Punic War and the destruction of Carthage.

4. Give an account of the Roman empire at the outbreak of the war against the Cimbri and Teutones.

5. Sketch, after Mommsen, the character of Gaius Julius Cæsar.

ENGLISH AND CANADIAN HISTORY.

Time—Two Hours and a Half.

Examiner—S. Arthur Marling, M.A.

1. Describe the growth of the prerogative and of arbitrary power in the reign of James I.

2. Give a history of the Court of Star-Chamber, and explain what was its jurisdiction at different times.

3. Write, after Macaulay, a history of the Long Parliament.

4. Narrate the principal events under Laval's administration in Canada.

5. Describe the relations existing between the home government and the French Governors of Canada.

PROFESSIONAL EXAMINATION.

First Class.

SCIENCE OF EDUCATION.

Time—Two Hours.

Examiner—J. A. McLellan, LL.D.

1. Give any definitions of Education that have been proposed by prominent writers on the subject.
What do you conceive to be the true aim and scope of education?

2. Discuss briefly the question—Is Education a Science?
What practical uses may fairly arise from a knowledge of the laws which regulate the mental activities?

3. State any of the conditions essential to effective mental action, and shew their bearing on the work of education.

4. Among the objective laws of association (of ideas) are
(1) The law of similarity and contrast.
(2) The law of contiguity in time and place.
Briefly explain and illustrate these laws.

5. Spencer says :—"For the training of the memory science is as good as language, while it has an immense advantage in the kind of memory it cultivates."
Give an outline of his discussion of these propositions.

6. "The influence of the imagination is equally felt in moral and intellectual action." Explain this statement.
In the cultivation of this faculty what methods are open to the teacher?

7. Bain says that the "Rule of Three" can hardly be applied without a knowledge of reasons, and is hence the *pons asinorum* of arithmetic. Compare, giving illustrations, this *pons asinorum* with the Unitary Method. Shew that the objection "Even in the Unitary Method we use the idea of ratio," is futile.

HISTORY OF EDUCATION.

Time—Two Hours.

Examiner—S. Arthur Marling, M.A.

1. Describe concisely the effect produced upon educational methods by the Revival of Learning in the 15th and 16th centuries. Illustrate by examples.

2. What are the leading educational principles developed by Rousseau? State the objectionable features of his 'Emile,' with the reasons of your objections.

3. Give some account of Jacotot and his system.

4. "It seems to be remarked that, in practice, the Pestalozzian system seems scarcely to have fulfilled the promise of its theory" (*Herbert Spencer.*) How does Mr. Spencer illustrate and account for this?

5. Tell what you know about the distinctive features of the teaching and school discipline of Dr. Thomas Arnold, *or*, of Bell and Lancaster.

6. Give a clear account of the origin and progress of national education in Ontario. What characteristics peculiar to itself does the Ontario system possess?

NOTE.—*Five questions will be reckoned a full paper.*

Practical Department.

MOTTOES FOR THE SCHOOL-ROOM WALLS.

No Bad Thoughts.
Be Self Reliant.
Kind Words Never Die.
Truth Wins When Deception Fails.
Our Life is what we Make it.
Let all your Actions be Upright.
Knowledge is Power.
Always be Frank and Truthful.
Indolence Never Climbs a Hill.
Never Give Up.
Always be on Time.
No Idlers Here.
Wisdom is Strength.
God Bless our School.
Always be Polite.
Strive to Please.
Be Kind to One Another.
"I'll try," must Succeed;
"I can't," must Fail.
Honest Youth makes a Happy Old Age.
Truth is Golden.
An Idle Word can never be Recalled.
Always do your Best.
Well Begun is Half Done.
Doing Right Pays.
Perseverance Wins.
Never Forget that God is Ruling.

THE TONIC SOL-FA METHOD OF SINGING.

BY J. L. ROBERTSON, TORONTO.

In the observance of *time* in singing, it may be asked, How am I to know whether the music is to be sung fast or slow? or, What is the duration of a pulse? Generally, two-pulse music is sung slowly, three-pulse faster, four-pulse slightly faster than that, and six-pulse the fastest, but both speed and expression are nearly always noted at the commencement of the piece, especially in those intended for instruction. For marking time an instrument is used, called a *Metronome*, in which a pendulum is moved by clock-work machinery, and by lengthening or shortening this pendulum the required speed is indicated. Thus, if we want to sing a piece marked M. 60 (Metronome 60), we adjust the pendulum to the length needed to produce sixty beats in a minute, and the time which elapses between each successive beat is the length of the pulse. In fast music, such as six-pulse measure, the pendulum could not be adjusted to beat every pulse, in which case it is arranged to beat half measures, or as it is expressed in the Tonic Sol-fa notation, "beating twice in a measure." The clock-work metronome is rather expensive, and for learners a cheap substitute may be used which the teacher can easily make. Get a narrow white tape, to which attach a plummet of about two ounces in weight—a piece of lead flattened out to the size of a silver dollar, with a hole near the edge, will do—and measure off on the tape lengths corresponding to the scale of inches in the following table, marking on it the several metronome figures:

M 50.....	Tape	56 inches.
M 56.....	"	47 "
M 60.....	"	38 "
M 66.....	"	31 "
M 72.....	"	27 "
M 76.....	"	24 "
M 80.....	"	21 "
M 88.....	"	17 "
M 96.....	"	13½ "
M 120.....	"	8½ "

These metronome figures include nearly all the movements required, until by practice the speed can be regulated according to taste and experience. The plummet is made to swing like a pendulum, while the teacher grasps the tape at the figure which denotes the metronome rate of movement. This simple contrivance is not so correct as the clock-work instrument, but is near enough for all practicable purposes.

Difference of Voices.—A boy's voice is like a woman's until a period in his life is reached—generally about fourteen or fifteen years of age—when it becomes hoarser and deeper, and the pitch becomes exactly an octave lower than it was, and continues so. Then when he sings in unison with women he may fancy he is still singing the same notes, but they are only *replicates* of these notes. Some men can sing higher than others, with a clear, ringing sound, but are unable to sink their voices so low; the higher tones form what is called *tenor*, and the lower *bass*. Again, some ladies and boys possess voices capable of high range and strong power, which are classed as *soprano*, while others, whose voices are perhaps equally powerful, have a lower range, which may be classed as *contralto*. The harmonious effect of these voices when singing a well-composed piece of music is, to the majority of the human race, extremely exquisite.

In the staff notation, when music is arranged for four voices, there are two staves used, the upper for soprano and contralto, and the lower for tenor and bass. Sometimes tenor is written in the upper staff, underneath the notes for female or treble voices. Also, the notes are not read in the same manner in each staff; for example, *F* in the treble staff is in the first space; in the bass staff it occupies the fourth line, and even then is an octave (eight notes) below the treble. This discrepancy causes much trouble to the learner. In the Tonic Sol-fa the same expression is used for all voices, but it is understood that both tenor and bass are sung an octave lower than written, because, in the first place, it obviates the necessity of increasing the number of octave marks in writing and printing the notation; and secondly, on account of the impression which exists that men sound the same note as women, when it is in reality only a lower replicate. If it were written as sounded, men would desire to pitch their voices an octave lower than needed, and therefore the plan adopted is convenient though not strictly correct.

The learner will now observe, *and bear in mind*, that when a letter is used without a figure it represents a note *in* the octave of the key-note; when the figure is attached to the upper part of the letter

the note is in the cotave *above* the key-note, and when in the lower octave, or that *below* the key-note, the figure is placed at the lower part of the letter. This remark applies to the bass and tenor as well as the trebles.

(In the modulator which appears in my last article the following corrections will be made by the learner:—In key *F* take the figure off the upper t, and place one to lower l, also to lower m in the key *B* flat just beside it. In key *G* remove the figure from the upper part of t to the lower part of same.)

EXERCISES.—The exercises selected this month are school songs which are easily learned. They are both written in four-pulse measure, which is marked by the hand moving *down* for the first pulse in the measure, *left* for the second, *right* for the third, and *up* for the fourth. The down beat, *in every instance*, is on the first pulse after the long bar, or upright stroke. The emphasis should be marked also as shown in the last article.

HASTE, HASTE, HASTE.

KEY F. M. 80. *From Curwen's "Second Linnet."*

d : —	m : —	s : —	— : d
1. Haste,	haste,	haste,	For
m : d	r : t_1	d : —	— : d
schooltime	now is	near!	A -
r : r	r : r	m : —	d : d
way from	home and	la -	bour, With
m : m	m : m	s : —	m : —
schoolbooks,	pen, and	pa -	per,
s : —	s : —	s : —	— : d
Haste,	haste,	haste,	For
m : d	r : t_1	d : —	— : — ‖
schooltime	now is	near.	

2. Haste, haste, haste,
For schooltime now is near!
Before the bell stops ringing,
Be there to join in singing,
Haste, haste, haste,
For schooltime now is near.

3. Haste, haste, haste,
For schooltime now is near!
Be always there in season,
Or have sufficient reason,
Haste, haste, haste,
For schooltime now is near.

LITTLE EYES.

KEY F. M. 72. *From Curwen's "Second Linnet."*

d : r	m : —	r : m	d : —
1. Lit - tle	eyes,	lit - tle	eyes,
m_1 : f_1	s_1 : —	f_1 : s_1	m_1 : -
r : m	f : s	f : m	r : —
O - pen	with the	morn - ing	light,
s_1 : s_1	l_1 : t_1	r : d	t_1 : —
d : r	m : —	r : m	d : —
Up - ward	look,	up - ward	look,
m_1 : f_1	s_1 : —	f_1 : s_1	m_1 : —
r : m	f : r	d : t_1	d : —
Heav-en's	morn is	al - ways	bright.
f_1 : m_1	r_1 : f_1	m_1 : r_1	m_1 : — ‖

2. Little heart, little heart,
Full of laughter, full of glee,
Beat with love, beat with love,
For the Lord who blesses thee.

3. Little hands, little hands,
Busy with the kite or doll,
Learn ye may, work or play,
Daily to do good to all.

4. Little feet, little feet,
Soft your patter, light your load,
Do not stray, keep the way,
Walk the straight and narrow road.

MISCELLANY OF HYGIENIC RULES AND APHORISMS.

The first thing a child should learn is to ask for a drink of water. I have seen hand-fed children scream and fidget for hours together, as if troubled by some unsatisfied want, but at the same time rejecting the milk-bottle and pap-dish with growing impatience. In nine such cases out of ten the nurse will either resort to paregoric or try the effect of a lullaby. I need not say that the poison-expedient would be wrong under all circumstances, but, before you try anything else, offer the child a cup of cold water. To a young nursling the mother's breast supplies both food and drink, but farinaceous paps require a better diluent than milk.

If I should name the greatest danger of childhood, I would unhesitatingly say, Medicine. A drastic drug as a remedial agent is Beelzebub in the *rôle* of an exorcist.

Our nursery system, after all reforms, is still far from being the right one—how far, we may infer from the fact that we have not yet learned to make our babies behave as well as young animals.

Tight-swaddling, strait-jacket gowns, and trailing petticoats—restraint, in short, makes our infants so peevish. If we would give them a chance to use their limbs they would have no time to scream.

It would prevent innumerable diseases if people would learn to distinguish a morbid appetency from a healthy appetite. One diagnostic rule is this, that the gratification of the latter is not followed by repentance; another, that the former has to be artificially and painfully acquired: our better nature resists the incipience of a morbid "second nature." After acquitting Nature from all responsibility for such factitious appetites, it may be justly said that a man can find a road to health and happiness by simply following his instincts.

The supposed danger of cold drinks on a hot day is a very expensive superstition. It deprives thousands of people of the most pleasurable sensation the human palate is capable of. It is worth a two hours' *anabasis* in the dog-days to drink your fill at the coldest rock-spring of the mountains.

Bathing in flannel!—I would as soon take ice-cream in capsules. The price of the flannel suit would buy you a season-ticket to a lonely beach.

A disposition to excessive perspiration is often due to general debility, but there is a specific remedy for it. Fill your knapsack with substantials and take a pedestrian trip in midsummer, up-hill, if possible, and without loitering under the shade-trees; in short, give your body something worth perspiring for. After that it will be less lavish of gratuitous performances of that sort. The soldiers of the Legion Etrangère are mostly northmen—Poles, Belgians, and Russians—but upon their return from a year's service in Algiers it takes a long double-quick under a Mediterranean sun to drill them into a sweat.

"A catarrh is the beginning of a lung-disease." It would be the end of it if we did not aggravate it with nostrums and fusty sick-rooms.

Somehow or other we must have abused our teeth shamefully before Nature had to resort to such a veto as toothache.

A tooth pulled in time saves nine.

"If you doubt whether a contemplated act is right or wrong," says Zoroaster, "it is the safest plan to omit it." Let dyspeptics remember that when they hesitate at the brink of another plateful.

The digestion of superfluous food almost monopolizes the vital energy; hence the mental and physical indolence of great eaters. Strong-headed business-men manage to conquer that indolence, but only by an effort that would have made the fortune of a temperate eater.

A glutton will find it easier to reduce the number of his meals than the number of his dishes.

Highland children are the healthiest, and, even starving, the happiest. "There is no joy the town can give like those it takes away."

Paracelsus informs us that the composition of his "triple panacea" can be described only in the language of alchemistic adepts. Nature's triple panacea is less indescribable—fasting, fresh air, and exercise.

A banquet without fruit is a garden without flowers.

The best stuff for summer-wear: one stratum of the lightest mosquito-proof linen.

"Do animals ever go to the gymnasium?" asks an opponent of the movement cure. Never: they have no time—they are too busy practising gymnastics out-doors.

Descent from a long-lived race is not always a guarantee of longevity. A far more important point is the sanitary condition of the parents at the birth of the child. Pluck, however, is hereditary, and has certainly a prophylactic, a "health-compelling" influence.

The first gray hairs are generally a sign of *dear-bought* wisdom.

The "breaking-up" of a pulmonary disease could often be accomplished by breaking the bedroom-windows.

Death, formerly the end of health, is now-a-days the end of a disease.

Dying a natural death is one of the lost arts.

There seems to be a strange *fatum* in the association of astronomy with humbug: formerly in horoscopes, and now in patent-medicine almanacs.

A patent-medicine man is generally the patentee of a device for selling whiskey under a new name.

A "chronic disease," properly speaking, is nothing but Nature's protest against a chronic provocation. To say that chronic complaints end only with death, means, in fact, that there is generally no other cure for our vices.

Every night labors to undo the physiological mischief of the preceding day—at what expense, gluttons may compute if they compare the golden dreams of their childhood with the leaden torpor-slumbers of their pork and lager-beer years.

If it were not for calorific food and superfluous garments, midsummer would be the most pleasant time of the year.

Early impressions are very enduring, and can make useful habits as well as evil ones a sort of second nature. In order to forestall the chief danger of in-door life, make your children love-sick after fresh air; make them associate the idea of fusty rooms with prison-life, punishment, and sickness. Open a window whenever they complain of headache or nausea; promise them a woodland excursion as a reward of exceptionally good behaviour. Save your best sweetmeats for out-door festivals. By the witchery of associated ideas a boy can come to regard the lonely shade-tree as a primary requisite to the enjoyment of a good story-book. "*Or, mes pensées ne roulent jamais aller qu' avec mes jambes,*" says Rousseau ("Only the movement of my feet seems to set my brains a-going"), and it is just as easy to think, debate, rehearse, etc., walking as sitting; the peripatetic philosophers derived their name from their pedestrian proclivities, and the Stoic sect from their master's predilection for an open porch. Children who have been brought up in hygienic homes not rarely "feel as if they were going to be choked" in unventilated rooms, and I would take good care not to cure them of such salutary idiosyncracies.

Every observant teacher must have noticed the innate hardiness young boys, their unaffected indifference to wind and weather. They seem to take a delight in braving the extremes of temperature, and, by simply indulging this *penchant* of theirs, children can be made weather-proof to an almost unlimited degree; and in nothing else can they be more safely trusted to the guidance of their protective instincts. Don't be afraid that an active boy will hurt himself by voluntary exposure, unless his chances for out-door play are so rare as to tempt him to abuse the first opportunity. Weather-proof people are almost sickness-proof; a merry hunting-excursion to the snow-clad highlands will rarely fail to counteract the consequences of repeated surfeits; even girls who have learned to brave the winter storms of our North-western prairies will afterwards laugh at "draughts" and "raw March winds."

A hard crust is the best possible dentifrice. I never could get myself to believe in the natural necessity of a tooth-brush. The African nations, the Hindoos, the natives of Southern Europe, the South-Sea Islanders, the Arabs, the South American vegetarians, in short, three-fourths of our fellow-men, besides our next relatives, the frugivorous animals, have splendid teeth without sozodont. I really believe that ours decay from sheer disuse; the boarding-house *homo* lives chiefly on pap—wants all his meats soft-boiled, and growls at cold biscuit or an underdone potato; in other words, he delegates to the cook the proper functions of his teeth. We hear occasionally of old men getting a second, or rather third, set of teeth. I met one of them in northern Guatemala, and ascertained that he had become toothless during a twelve years' sojourn in a seaport town, and that he got his new set upon his return to his nacive village, where circumstances obliged him to resume the hard torn-cake diet of his boyhood years. His teeth had reappeared as soon as their services were called for, and would probably never have absented themselves if a pap-diet had not made them superfluous. An artificial dentrifice will certainly keep the teeth white, but that does not prevent their premature decay; disuse gradually softens their substance, till one fine day the hash-eater snaps his best incisor upon an unexpected bone. Every old dentist knows hundreds of city customers whom the daily use of a tooth-brush did not save from the necessity of applying, before the end of the fortieth year, for a complete "celluloid set." I do not say that a soft tooth-brush and such dentrifices as oatmeal or burned arrow-root can do any harm, but, for sanitary purposes, such precautions must be supplemented by *dental exercise*. Let a child invigorate its teeth by chewing a hard crust, or, better yet, a handful of "St. John's bread" or carob-beans, the edible pod of the *Mimosa siliqua*. Children and whole tribes of the northern races seem to feel an instinctive desire to exercise their teeth upon some solid substance, as pet squirrels will gnaw the furniture if you give them nut-kernels instead of nuts. Thus Kohl tells us that the natives of southern Russia are addicted to the practice of chewing a vegetable product which he at first supposed to be pumpkin or melon seeds, but found to be the much harder seed of the Turkish sunflower (*Helianthus perennis*). Their national diet consists of milk, *kukuruz* (hominy, with butter, &c.), and boiled mutton, and they seem to feel that their Turkoman jaws need something more substantial. The school-boy habit of gnawing pen-holders, finger-nails, etc., may have a similar significance. The *Mimosa siliqua* would yield abundantly in our Southern States, and its sweet pods would make an excellent substitute for chewing-gum. Our practice of sipping ice-cold and steaming-hot drinks, turn about, has also a very injurious effect upon the brittle substance that forms the enamel of our teeth; no porcelain-glaze would stand such abuse for any length of time, and experience has taught hunters and dog-fanciers that it destroys even the bone-crushing fangs of the animal from which our canine teeth derive their name.—DR. FELIX L. OSWALD, *in Popular Science Monthly for November.*

ENGLISH LANGUAGE IN THE PRIMARY SCHOOL.

Every art must be learned in the beginning by practice. The art of language demands much practice. The acquirement of a vocabulary and a familiarity with correct forms of expression is a very slow process, and, like the study of numbers must be begun early in the child's life. If this practice be omitted for technical teaching, or if it be delayed until the pupil's habits of speaking be firmly fixed, and until the period of acquiring an extensive vocabulary easily and rapidly is past, a fine command of language can hardly be acquired. A life-time will hardly suffice to obtain what might have been easily gained in the impressible season of childhood. That language does have, then, more than an incidental place in the primary school, no one will question. Not as a science, at all, but as a means of gaining a vocabulary and fixing correct forms of expression, thereby preparing for the scientific study of the language. Nor will a proper teaching of it add to the teacher's work, but rather leaven the whole lump. Any one who has tried it, or has watched its working in the best schools of the country, will bear me out in this statement.

There is no more favorable period in the child's school-life for this work. He is constantly getting new ideas; these need to be expressed,—need to be put into words. Ideas become clearer ideas through expressing them; thoughts are retained by being stated clearly. There is, then, a great call for the use of language, and, if given the opportunity, the child will respond with a readiness he will never afterward exhibit. He has not self to forget at this period, for he has never learned to think of self; neither is he conscious of surroundings, as he will be later, but will freely and unaffectedly state his thought. That is what he has been doing for years before coming to school,—been doing it as he has been doing nothing besides,—for he has been allowed and encouraged to talk about everything with which he has came in contact. Exercise his one talent, then, and continue the instruction begun at home. The school-room will be more real to him with this one connecting link between it and home.

Language-culture must be largely oral through the primary course; each "lesson is the joint product of the work of teacher and pupil." Its exercise, therefore, depends upon the genuine sympathy existing between teacher and pupil, and also upon the teacher's individual thought in planning an exercise. This being true, no detail of methods can be closely followed. I can, however, speak of some of the methods I have used in language-training, and these will suggest many others to your mind.

Let the first exercises be purely conversational, and with the very little ones let them continue so for several weeks. Let the questions with the youngest ones be somewhat after this manner: How many shoes have you on your feet? The answer comes, "Two." Two what? "Two shoes." What about two shoes? "Two shoes on my feet." Now who will tell me the whole story? and so follow up the questioning until you receive a complete statement. They soon learn that you expect this, and will give it without waiting to be questioned for it. How many mittens do you wear at once? What do you wear on your head? what else? who wear bonnets? who wear tall hats? What do you see from the window? What did you see coming to school? What do you think you will see going home?

Show pictures, and call for the objects they can see in the picture. Show an apple, and ask, What would you do with it if you had it? What else can you eat? When do you eat breakfast? dinner? supper? When does puss have her dinner? How does puss drink her milk? How many feet has your cat? What will she do if you pull her tail? With what will she scratch? Where does she hide her claws? Show a toy-horse and cart, and ask, What do you see now? Is this a real horse? Is this a real cart? What can a real horse do? What do people put in a cart? How many of you have a cart at home? Is it just like this cart? Is it as large?

In this way I lead them to observe and think, and then require their thought. They soon lose all restraint, and talk freely and sensibly about their home, their playthings, what they like, what they do not like, with whom they play, what things are made of wood, of glass, of tin, or about any particular thing to which I call their attention. I have only to present the stimulus to thought, and their little active minds respond readily. Thought with them means expression, and they give it without thinking of how they shall give it, or feeling at all embarrassed as to their nouns, verbs, and adjectives. There are constant mistakes in the use of these at first, but gentle, patient correction, soon establishes a fair degree of perfection even with the little ones.

At first I can have little method in my questions. My aim is solely to awaken thought without regard to concentrating it, and to ascertain the child's range of ideas. When I know where the class stands, I can choose my subjects and put my questions according to the children's comprehension. Objects themselves, or pictures of objects, present the best stimulus of thought. "Indeed the only way to cultivate language in the child is to extend his knowledge of objects, and allow him full opportunity of talking about them and hearing when talked about."

Movements have a great charm for children, so I let them describe mine or each other's. I go to the board, draw a straight line, return to the class, and ask who can tell me what I have done. I open a door and talk with an imaginary person outside, and ask again what I did. I go to my desk, take a flower from the vase and give it to one of the class, and again ask what I have done. I let her do what she pleases with the flower, and let them tell me what has been done.

At another time I say, Put your heads on the desk and think of something that has four feet; two feet; that flies; that has four wheels; two wheels; one wheel; three wheels. Of something you would like me to bring you when I go to Boston; of something that grows on trees; of some animal you know; of some plant you know. Tell me what articles are found in the kitchen; in the parlor; in the school-room. I write a sentence on the board, putting a horizontal line in place of one of the words and require the child to supply the word omitted. For illustration:

Teacher: My —— can jump.
Class: My cat can jump.
My dog can jump.
My cow can jump.
My brother can jump.
My squirrel can jump.

These skeleton sentences give an excellent practice in word-finding, both now and farther on, when I can leave several blanks to be supplied, or when I can put a story on the board, writing only a few of the most important words, and require a connected story with this mere outline for a guide.

I describe a word and require them to tell it to me from the description. Thus: "I am thinking of something that grows in the field, and that men mow in the summer time." They are quick to say I am thinking of *grass.* "I am thinking of something the grass makes when it is dried; of something that is done to the hay; for what the hay is used."

I tell a story and require the scholar to tell me what he remembers of it. I point to a word with which they are familiar, and ask who will use this word in a little story?

I point to an object in the room and ask, Who will tell me some-

thing about this? They answer the questions: What can you do? what can you taste? what can you wear? what can you hear? what can you touch?

All these ways, and many more, I use to "bring to expression their previous knowledge, and make it a basis for added facts." The number of ways may be quadrupled and still leave ample scope for originality. All these exercises are adapted to the first years in school. They are largely conversational; occasionally objects are described, but the power of description comes later than the power to narrate, so I employ narration first.—*N. E. Jour. of Ed.*

ORAL INSTRUCTION.

I know that microscopic politicians have persuaded the long-suffering public of this country that teachers ought to have nothing to say about education; but I think they should have, and am going on to say my share, in spite of all the politicians who are not yet translated.

To whom should the public look for information about education, if not to teachers? If teachers are timid or dumb, can they complain if education suffers? Two-thirds of the general literature of education is inflicted upon a docile public by plausible theorists who never strayed even by accident into a class-room; who boldly seize the chart and compass to navigate our ship on a sea they never saw, and by observations they never took. Brethren, it is high time that teachers should begin to teach, and not leave themselves and the public the victims of theoretical experimenters, who are not even yet in the early days of their apprenticeships to a very complex business. I notice that this latter-day cry for oral instruction only, and abolition of text-books, comes from such people, who, nevertheless, have no intention of touching this burden with so much as one of their little fingers. Such cries are dangerous to progress already made, and are like newly discovered short cuts, which are proverbially long roads. Young enthusiasts just beginning to sense the power which is new to them; ancient fabrics set on fire for the first time and burning with a consuming fierceness; extremists who, by exaggeration, make the mildest virtues into aggravating vices, all by their intensity bring a good thing into disrepute, and have to be tempered by moderation, and cooled down into steady and unexcited service. Oral instruction is necessary to every good teacher, and the younger the pupils the more it is essential to their happiness and progress, but you can no more abolish text-books for proper use in day schools than you can banish them from universities or technical schools for adults. And there is as much danger to be feared from oral instruction without text-books as is found in the mechanical use of text-books without the life of oral instruction. Every good teacher approves of a due proportion of oral instruction and practises it, regarding it as the brightest and keenest weapon in his armory; and uses text-books also to make his work stick, and sustain him and his pupils, in weak moments, at the standard of their best. No good teacher avoids it, or goes fanatically insane about it, either for or against. He knows that if you deliberately abolish text-books, and call upon teachers to depend upon oral instruction only, not occasionally, as it is now, and always has been, practised by good teachers, but as proposed by fanatics, namely, for five hours a day on five days in the week, you will kill all the good teachers in a month, leaving alive only the sticks who are skilled in the art of self-preservation, who never teach at all, orally or otherwise, and therefore never wear out, to comfort you in your solitude among the graves of those you have destroyed. Suppose, for example, you were to try this wholesale oral experiment on ministers in churches. Make them preach without manuscript, and insist on their congregation singing without hymn-books, the preachers to change their subjects every hour, not for one hour a day but for five hours a day, not only on one day in the week but for five days in the week, to a congregation of lost souls, every one of whom has been born an infidel, and is in dire need of conversion. The clergy are good, self-sacrificing men; many of them approve of this idea *for schools*, and would doubtless not object to having it practically tried in churches. When strong men and adult pupils have been proved to be able to endure this strain and are improved by it, it may, without cruelty and iconoclastic stupidity, be fair to try it on weak women and infant scholars. If experimenters will begin there, they will find that in a year many pulpits and churches have been many times over thus emptied, and many graveyards and asylums filled, and the fragments of congregations left will declare that their works do follow them. In mercy, then, begin with ministers and churches, because all concerned will be able-bodied adults and likely to exercise free-will to defend themselves; then, if it succeeds, we may try it on teachers and little children in our schools, without being guilty of Herod's crime, or breaking all the commandments at once for educational purposes, as Moses did.—*Walter Smith.*

SCHOOL MANAGEMENT AND GOVERNMENT.

"As the teacher is, so is the school," is a trite saying, the truth of which none will question.

See to the orderly management of everything. Have a place for each pupil to hang his hat and wrappings, put his books, to sit or stand in his class, and see that his place is kept.

Have a regular time for reciting, and, if possible, for studying every lesson.

See at all times that the best of care is taken of the school property.

Always keep the school-room neat and clean; ornament it with pictures, mottoes, maps, charts, wreaths, and flowers.

Always call and dismiss your classes in order; count, or tap the bell as signals.

Be firm and kind. Don't scold. Be prompt in everything. Your pupils will often follow your example.

Do not allow communication, leaving seats, or going out, or getting water during school hours, without permission.

System, self-possession, energy, and kindness on the part of the teacher are the disciplinary agents.

Profitable and constant occupation is the true preventive of disorderly conduct.

Have every pupil secure a slate and pencil, and be sure he uses them.

Have as few classes as will be consistent with the wants of the school. A teacher cannot teach a successful school and hear thirty or thirty-five recitations daily.

See that the room is properly ventilated—about 65° or 70° Fahr. is the proper degree of temperature.

Have the syllables of all words pronounced, or teach the pupil to make a slight pause between syllables.

Do not have your pupils report "perfect" and "imperfect." It leads to habits of lying and deception.

All the pupils of the same class should pursue the same studies if possible.

Don't forget to have the general exercise for the whole school each day. Use the oral and general exercises provided for each grade, for the whole as far as practicable.

"Order is Heaven's first law," and *without* order no school can succeed. The first step in governing a school is to govern yourself.

Have written examinations once a month for the larger pupils, and oral examinations for the smaller ones.

Every teacher should be a regular reader of at least one educational journal.

Always be a living model for your pupils, whether in or out of school.

Begin school promptly at nine o'clock and close at four.

Visit your patrons frequently and urge them to visit your school.

Visit some of the best schools you can hear of each year, and don't fail to attend the institute.

Make a full report at the close of your school.—*Iowa Course of Study for Ungraded Schools.*

TRUE METHOD OF TEACHING NOTATION.

I propose to show the true method of enabling those children who have already learned to hundreds properly to express *any* number, no matter how high.

THREE STEPS.—There are but three different steps to be attended to, none of which possesses any great difficulty.

Write on the *blackboard* any series of figures in proper order. When this is done—

(1) Show the children the method of dividing these into *periods*, or groups of *three*, counting always from the *right* hand. In this there will be no difficulty. The separation of each group may be effected by a comma, a hyphen, a tick, or, with very young children, the three figures in each may be united by a line above them, as $\overline{406}$, or they may be completely surrounded by a circle, as (406), the great object being to accustom the pupils to regard each group as independently of the others as possible.

(2) They should next learn to read these periods; that is, to read the numbers in each exactly as if written by themselves. Thus, suppose the number divided into periods on the blackboard stood thus:—

640,307,081;

they must say, pointing to the first, *eighty-one;* to the second, *three hundred and seven;* to the third, *six hundred and forty;* the name of each period being omitted.

This is exceedingly easy, but it is exactly in this that defects are most frequently met with. They should, therefore, be exercised on it frequently, until they can do it correctly and without the smallest hesitation.

(3) Then, but not till then, they should be taught the names by which the periods are distinguished from each other; and they should make use of these when repeating the numbers in each. Thus, to the above numbers they should add *millions* after the six hundred and forty, *thousands* after the three hundred and seven, and *units* after the eighty-one; so that the whole will read six hundred and forty millions, three hundred and seven thousand, and eighty-one units. They can next be taught to drop the word units—it being generally left out—but in each case, when not expressed, they ought to know that it is understood—*School Bulletin.*

THE PRIMARY CLASS.

WRITING LESSONS.

How should we interest these little folks in the writing lesson? Let them *write.*

Children like to talk, and next to talking comes this wonderful sign-language, writing. Let the little folks write often to learn to write, as you let them talk often to learn to talk, and read often to learn to read. But when you hear them talk or read, you are ready to prompt them, so that they will not fall into wrong practice. They need just the same care on your part when they write. Watch their fingers. Prompt them when they make the written signs, as you do when they make the spoken ones. Written language should follow ver y close to spoken language, with the child. He has to repress his voice in a great measure when in school. His mind is bubbling over. Let some of this mental energy work out of his fingers. Let him write as often as you can; never to tire him; never in a hap-hazard way; but under eye, with care, with thought, with interest.

I know of no elementary branch into which more life and interest can be put than the writing. It gives the children something real to do. It is visible. Above all, it can be read. A child's first writing is to him truly wonderful. Do not confuse the child's mind with theoretical analysis, nor give him fragments of letters to write. The favorite method of teaching seems to be, first, a wearisome practice on elementary lines and fragments of letters; next, a tedious drill on isolated letters and disconnected words; and finally a monotonous procession of copy-book saws and proverbs. This dull routine has robbed writing of its highest charm as a medium of expressing thought, and has placed the greatest obstacles in the way of both teacher and pupil. How would it seem in reading, if for many months the child was required solely to articulate letters, syllables, and words, disconnected from any thought? Whatever might be his gain in enunciation, would be at the expense of all natural effort and interest.

Make the writing more a natural process. Give your pupils at the start a complete idea, a whole letter. As soon as they have learned a few letters, let them build up little words; and as early as possible, let them write easy phrases and sentences. Let children write thoughts as you let them read thoughts; and give them something interesting to write. Their writing thus becomes a language to them, the same as their reading and speaking.

Talk to the children a great deal about writing. Tell them about the letters, so that they will feel acquainted with them. Help them to see how much like the printed signs the written ones are. Write the letters on the black-board, and attract the eye of every pupil by what you say about them.

The analogies between different letters will be a fruitful theme. We take the little dotted letter first, and study it, and when the children once learn to make it, they have only to double it, and leave off the dot, and they have a second letter, *u*. Then, again, the teacher takes small *n*, and shows the children the two parts of the letter. They learn to know these parts, and how to make the letter from them. The teacher tells them if they just double the first part of *n*, and add to this the last part, they will have another letter, small *m*.

In this way, children will get to be as sure of each letter they write as they are of each word they speak. It is possible to educate their minds far ahead of their fingers; but the latter will catch up, and will soon do better work for the child's knowing more about it. Illustrate freely on the black-board; associate pleasant ideas with the letters; make the writing always a recreation to the child—never a task.—*Primary Teacher.*

TEN RULES FOR LOSING CONTROL OF A SCHOOL.

1. Neglect to furnish each pupil plenty of suitable seat-work.
2. Make commands that you do not or can not secure the execution of. Occasionally make a demand with which it is impossible to comply.
3. Be frivolous and joke pupils to such an extent that they will be forced to "talk back." This will "break the ice," and they will soon learn to be impertinent in earnest. Or be so cold and formal as to repel them.
4. Allow pupils to find out that they can annoy you.
5. Promise more in your pleasant moods than you *can* perform, and threaten more in your "blue spells" than you *intend* to perform.
6. Be so variable in your moods that what was allowable yesterday is criminal to-day, or *vice versa*.
7. Be overbearing to one class of pupils and obsequious to another class.
8. Utterly ignore the little formalities and courtesies of life in the treatment of your pupils in school and elsewhere.
9. Consider the body, mind, and soul of a child utterly unworthy of study and care. Let it be a matter of indifference to you whether a child is comfortable or uncomfortable. Consider that it is unimportant *why* a child enjoys one thing and dislikes another, and that it is not your business to aid him in forming a worthy character.
10. Let your deportment towards parents and officers be such as will cause you to lose their respect and confidence.

One or more of these rules faithfully executed will secure the end in view.—*Wisconsin Journal of Education.*

WHISPERING.

Many teachers are fretted and troubled by the whispering of their pupils. They ask "How can we stop whispering?" Suppose we put this in another aspect, and ask "How shall we prevent their wanting to whisper?" The usual way is to have a rule against it and a penalty. So much is deducted from their standing, or they are made to stay in at recess or after school. But let the teacher give the pupils employment, and then they will not be likely to whisper. "An ounce of prevention is worth a pound of cure." It is not well to make a rule against whispering. Let the pupils know that you do not want it done, and then try the effect of employment. At all events do not consider the scholar as a reprobate if he will whisper. Reflect what you would do under the same circumstances; reflect further that teachers are very apt to whisper when together. And if a pupil whispers, it is not absolutely necessary to rap on your desk and look crossly at him. The world will not fall to pieces if one or ten whisper each day. Be brave, then, and do not be frightened if one whispers.

Let us now see how it can be stopped, for a school-room that is full of noise and confusion is an unsightly spectacle. Noise and

study are incompatible. Explain this to the scholars and enlist their aid in the matter. Make them find that you want to make the room pleasant; that you do not want them to be troubled and harassed by others interrupting them. These plans may be tried to accustom the children to abstain from speaking.

1. Ask them to go without whispering for a half-hour, or hour, and at the end of that time ascertain who have succeeded, letting them raise their hands. Commend their success; give them a little rest, and then let them try another period.

2. Have a period set apart for speaking, by having a large card marked "Study Hour," on one side, and "Needful Speech," on the other. At the end of each hour turn this card.

3. Keep an eye on the noisy ones, and give them a separate place to sit, not so much as a punishment as to prevent them troubling others.

4. Keep a record of those who whisper much, and class them as "Disorderly," and lower their standing for good behaviour. This needs to be handled with care.

6. Detain those who are noisy, and try to influence them by a kind personal talk.

6. Appoint some of these as monitors.

7. Give extra employment to those who seem to have time to whisper.

8. Make a great distinction between those who whisper about their studies and those who whisper about mischief.

9. Dismiss in the order of orderly conduct as you have noted it—saying I will dismiss in the class—(*a*) "Those who have seemed to me to be successful in managing themselves; these may stand—James, Henry, etc., etc." After dismissing these—(*b*) "Those who have seemed to me to be moderately successful; these may stand—William, Mary, etc." After dismissing these—(*c*) "Those who have had the least success—these may stand—Susan, etc." Then dismiss these.

There are many other methods, but the above carefully applied and followed by close personal attention will generally suffice.—*N. Y. School Journal.*

PRACTICAL QUESTIONS.

NATURAL PHILOSOPHY.—Why do housekeepers test the strength of lye, by trying whether or not an egg will float in it? How much water will it take to make a gallon of strong brine? Why can a fat man swim easier than a lean one? Why does the firing of a cannon sometimes bring to the surface the body of a drowned person? Why does the body of a drowned person generally come to the surface of the water after a time? Will a pail of water weigh any more with a live fish in it than without? Why can stones in water be moved so much more easily than on land? Why is it so difficult to wade in the water when there is any current? Is the water at the bottom of the ocean denser than at the surface? Why can a swimmer tread on pieces of glass and other sharp substances at the bottom of the water without harm?

PHYSIOLOGY.—Why do we need food? Why will a person starve without food? Are the current stories of people who live without food to be relied upon? What does food do to us? What does food contain? Must a student starve himself? Is there any danger of over-eating? Do not most people eat more than is for their good? How should the season regulate our diet? Should we labor or study just before or after a meal? Why should care be banished from the table? Will a regular routine be beneficial? What kind and quantity of food does a sedentary occupation require? What caution should students, who have been accustomed to manual labor, observe? What is the rule for exercise? Is a young person excusable, who leads a sedentary life, and yet takes no daily outdoor exercise? What will be nature's penalty for such a violation of her law? Will a postponement of the penalty show that we have escaped? Ought a scholar to study during recess? Will a promenade in the vitiated air of the school-room furnish suitable exercise? What is the time for taking exercise? Who can exercise before breakfast? What are the advantages of the different kinds of exercise? Should we not walk more?

CHEMISTRY.—What is the meaning of oxygen? What are the destructive effects of the oxygen in the air? What causes the decay of peaches? Why does not canned fruit decay? How is river water purified on a sea voyage? By what means is the oxygen carried through the system? What work does it perform in the body? Why is the blood in the arteies red and in the veins black? Does fire differ from decay? In what sense is the body a furnace? What is the fuel? Why do we eat more food in the winter than in summer? Would a fat man endure starvation longer than a lean one? Why do teamsters warm themselves by slapping their hands? Why does running cause panting? Why does one die when his breathing is stopped? Could a person commit suicide by holding his breath? Why do we need extra clothing when we sleep, even at mid-day, in the summer? How do hibernating animals illustrate this? How does a cold-blooded animal differ from a warm-blooded one? Is there any part of our body that is permanent? Why does a person drown in water? Would a person drown in pure nitrogen? What causes flesh to decompose so much more easily than wood? What use do plants make of the nitrogen they breathe in? Why do we need a draught to a stove? Why do we use "kindlings" in starting a fire? Why does blowing on a fire kindle it, and on a lighted candle extinguish it? Why can we not ignite hard coal with a match?—*Steele's Sciences.*

OCCUPATION FOR THE YOUNG CHILDREN IN SCHOOL.

CLAY EXERCISE.

Form.—If practicable, provide each child with a small piece of board containing wet clay. Where the class is too large, have a large tray or box containing the clay, and allow two or three children to work at one time, while the class look on, criticise the work, and when necessary different ones may be appointed to rectify mistakes; thus all may be keep interested.

As in previous lessons, begin with a talk about clay. What kind of a substance? Where obtained? Of what use? Speak of bricks; have one to show. If convenient, present other objects made of clay; speak of their manufacture, or what is better, let the children find out as much as possible for themselves, and relate it at the next lesson.

Have the children first make a ball or sphere of clay. What kind of a surface has it? How many hemispheres can be made of it? Let them cut it with a knife. What part of the sphere is the hemisphere? What does hemi mean? How many halves in a sphere? in an apple? in anything? How many faces has it? What kind? What edges? Let them place the two halves together, then press it and make an oblate-spheroid; then make it round again, and taper one end for an ovate-spheroid or egg shape. Return again to the sphere, and cut off each side for a cube. Review the shape as faces, edges and corners. Roll it out for a cylinder, cut off sides for square prism; if possible, cut it in two for triangular prism. Then form pyramids, cones, etc.

Let them make the shapes of different kinds of fruit, using little sticks for stems; for strawberries they could make little indentures with pins for the seeds. Have a talk about each kind of fruit, and when practicable, present the natural.

Have a lesson on the bird's nest, and let them mould it in clay, and make the eggs and place in it. Let them give a list of the names of little birds. A great variety of objects may be made, as well as cakes, pies, and bread, and a little lesson on each be given. The children will exercise their own ingenuity and devise many new forms.

The clay may also be used for geography lessons. The children may form mountains, valleys, capes, islands, peninsulas, straits, bays, springs, rivers, etc. They may get the idea of water flowing from all parts of the land, and at last finding its way to the ocean. They will surely get ideas instead of mere words. Children must have the object picture before they can grasp the idea.

ANNA JOHNSON.

GOOD READING.—No topic connected with the subject of education is exciting more attention than that of reading. The belief is becoming general that good reading depends not so much upon the mode of expression, as upon a clear understanding of the subject matter. One reason why so little has been accomplished in this direction is the fact that teachers in dividing the subject into reading aloud and silent reading, too often regarded the latter division as no part of their province. It is too often the case that pupils are especially drilled upon one or two favorite selections in the reading book until their reading becomes mere mechanical by imitation. Elocution and reading are not synonymous terms. The remedy for this defect is to increase the range of reading. Good oral reading depends upon the skill with which the reader is able to carry his eye ahead of the point where he is reading, to interpret the thought and adjust it to the preceding. This can only be acquired by extensive practice.

PRIMARY READING.

PRACTICAL HINTS FOR JUNIOR TEACHERS IN TEACHING BY ANY METHOD.

BY JAMES L. HUGHES.

1. **Use the Black-board.**—The reasons for the extensive use of the black-board until the pupils reach the Second Reader, are:

(*a*) *Children see the work done, and are therefore interested.* So far as the teacher is concerned, there are three ways of communicating knowledge; by talking about a thing, by showing it to them, or by making it or doing it before them. The third is better than the other two combined. A little girl will take more intense and prolonged interest in seeing her mother dress her doll, than she does in the doll itself, and a little boy will give more delighted attention to the making of a toy with a few sticks, a jack-knife, a hammer, and some nails, than to the most beautiful picture or toy that can be purchased for him. Printed words are unmeaning things to a child. Let him see you make them for him, and he will attend to you, and be interested in them.

(*b*) *The letters may be made large enough.* The letters should be made large at first, so that their distinctive parts may be brought prominently before the pupils.

(*c*) *The curiosity of the pupils may be constantly called into action.* Curiosity is one of the strongest instincts of childhood, and the wise teacher seeks to arouse and gratify it. The use of the black-board prevents the pupils from knowing what comes next, and so keeps them alert and expectant.

(*d*) *Habits of attention are formed.* In the average school the most listless and inattentive classes are usually the junior reading classes. It is no uncommon thing to find the pupil who is reading to be the only one looking at the tablet. This need not excite wonder when we remember how much unvarying routine there generally is connected with the lesson. With the teacher reduced to a mere pointer-guider, gliding methodically from "cat" to "rat," or from "hen" to "den," and the pupils droningly responding, it is not strange that their little eyes wander, and that they frequently look unconsciously at the teacher's face instead of the tablet, while they spell "g-oo-s-e, goose." The teacher with crayon in hand is an object of living interest to her class. The crayon is a magic wand which compels attention in the hands of a skilful and enthusiastic teacher.

(*e*) *Words may be used specially adapted to the circumstances of the class.* The topics of most absorbing and immediate interest to the children may be made the subjects of the lessons, and only such words may be used as involve elements already mastered, and those next to be taught.

(*f*) *The special difficulties of the class may receive particular attention.* Examples of any difficult or peculiar combination may be multiplied to suit the circumstances of each case. Characteristic words which have been learned may be kept on a portion of the board set apart for the purpose, so that they may be regularly reviewed. By this means difficulties will rapidly disappear.

(*g*) *Word-building may be carried on.* This is at first a very profitable exercise. As soon as a word such as "at" has been learned, a list of words may be formed by prefixing a single letter, and giving its sound in each case; as hat, cat, sat, rat, mat, &c. These may still further be modified by prefixing or affixing other letters. This is a thoroughly practical way of teaching the sounds of the letters, as the pupils learn their use by using them.

(*h*) *Words may be marked to suit the pronunciation.* It is well for a few weeks to use only one sound or power for each letter. This enables the pupils to learn what reading is, without any of the mental confusion resulting from the meeting with different sounds for the same letter. Having mastered this first great step, other sounds may be introduced and appropriately marked. The short sound of the vowels should be given first because more frequently used. Then the long sound may be added, and marked as in dictionaries. The short sound need not be marked, but should be given except when a mark is used to indicate some other sound. Two valuable methods may be practised to familiarize the pupils with the sounds of the letters. The teacher may mark the words, crossing out silent letters, marking vowels, &c., for the pupils to sound; or she may sound the word and require the pupils to mark it as pronounced. The same word should be sounded by the teacher in as many ways as possible, and the pupils should vary the marking to suit the changes in pronunciation. It is also a good practice for the teacher to mark the same word in various ways, and let the pupils change the sounds in accordance with the marking. They should also be asked to tell what the name of the word would be if its silent letters were sounded.

(*i*) *The teacher may vary the plan of teaching the reading lessons.* The system and method of teaching should be definitely fixed, but the plan should be varied as much as possible. The black-board greatly aids in preventing the adoption of an unvarying routine in conducting the reading lessons.

SELECTIONS FOR MEMORIZING.

The systematic practice of memorizing brief selections from the best authors was first introduced by Hon. J. B. Peaslee, Superintendent of Schools in Cincinnati. It is one of the most important, and may be made one of the most interesting, of school exercises. The selections are *taught in school* as a part of the opening exercises, and form no part of the *home work* of the pupils. One selection is taught each week; two or four lines being taught at a time, so that only a very short time is spent each day.

The benefits resulting from the exercise are:

1. The memory is cultivated.
2. The moral nature is developed.
3. A large store of choice selections are fixed in the minds of the pupils.
4. Composition is improved; the vocabularies of the pupils are enriched, they become acquainted with the language used by the best writers, and learn to use these words in their most appropriate connection.
5. Expressive reading is taught in the most practical way possible.

METHOD OF TEACHING THE SELECTIONS.

1. One line is written on the board by the teacher, and read by him distinctly, with emphasis rather overstrained, and pauses marked too distinctly.
2. The pupils repeat the line, imitating the teacher.
3. The teacher calls special attention to those parts of the line where the pupils have failed to imitate him accurately, and repeats the whole line, which is again repeated by the class. This is continued until the class recites the line correctly simultaneously.
4. A few individual pupils may then be called upon to recite the line.
5. The other lines are taught in a similar way. After each additional line is taught, the whole is recited from the beginning.

FIRST BOOK CLASSES.

1.

Hearts, like doors, can ope with ease
  To very, very little keys;
And don't forget that they are these:
  "I thank you, sir," and, "If you please."

Then let us watch these little things,
And so respect each other;
That not a word, or look, or tone,
May wound a friend or brother.

2.

Do your best, your very best,
And do it every day;
Little boys and little girls,
That is the wisest way.

Whatever work comes to your hand,
At home or at your school,
Do your best with right good will;
It is a golden rule.

3.

Suppose you're dressed for walking,
And the rain comes pouring down,
Will it clear off any sooner
Because you scold and frown?
And would it not be nicer
For you to smile than pout,
And so make sunshine in the house
When there is none without?

SECOND BOOK CLASSES.

1.

If you find your task is hard,
Try, try again;
Time will bring you your reward,
Try, try again;
All that other folks can do,
Why, with patience, should not you;
Only keep this rule in view:
TRY, TRY AGAIN.

2.

Beautiful faces are they that wear
The light of a pleasant spirit there;
It matters little if dark or fair.

Beautiful hands are they that do
Deeds that are noble, good, and true;
Busy with them the long day through.

Beautiful feet are they that go
Swiftly to lighten another's woe,
Through summer's heat or winter's snow.

Beautiful children, if, rich or poor,
They walk the pathways sweet and pure
That lead to the mansion strong and sure.

3.

Over and over again,
No matter which way I turn,
I always find in the book of life,
Some lesson that I must learn;
I must take my turn at the mill,
I must grind out the golden grain,
I must work at my task with a resolute will
Over and over again.

4.

Do what conscience says is right;
Do what reason says is best;
Do with all your mind and might;
Do your duty, and be blest.

5.

Count that day lost,
Whose low descending sun,
Views from thy hand,
No worthy action done.

THIRD BOOK CLASSES.

1.

I live for those who love me,
For those who know me true,
For the heaven that smiles above me,
And awaits my spirit too;
For the cause that lacks assistance,
For the wrong that needs resistance
For the future in the distance,
And the good that I can do.—*Mackay.*

2.

'Tis *being*, and *doing*,
And *having*, that make
All the pleasures and pains
Of which beings partake
To be what God pleases,
To do a man's best,
And *to have* a good heart,
Is the way to be blest.—Peter Parley.

3.

"I Can't" is a sluggard, too lazy to work;
From duty he shrinks, every task he will shirk;
No bread on his board and no meal in his bag;
His house is a ruin, his coat is a rag.

"I Can" is a worker; he tills the broad fields,
And digs from the earth all the wealth that it yields;
The hum of his spindle begins with the light,
And the fires of his forges are blazing all night.

4.

It may not be our lot to wield
The sickle in the ripened field;
Nor ours to hear on summer eves
The reaper's song among the sheaves;
Yet where our duty's task is wrought
In unison with God's great thought,
The near and future blend in one,
And whatsoe'er is willed is done.—*Whittier.*

FOURTH BOOK CLASSES.

1.

Within this ample volume lies
The mystery of mysteries;
Happiest they of human race
To whom their God has given grace
To read, to fear, to hope, to pray,
To lift the latch, to force the way;
And better had they ne'er been born,
Than read to doubt, or read to scorn.—*Walter Scott.*

2.

"No God! no God!" The simplest flower
That on the wild is found,
Shrinks as it drinks its cup of dew,
And trembles at the sound.
"No God," astonished Echo cries
From out her cavern hoar;
And every wandering bird that flies
Reproves the atheist lore.—*Mrs. Sigourney.*

3.

Sad are the sorrows that oftentimes come,
Heavy and dull, and blighting and chill,
Shutting the light from our heart and our home,
Marring our hopes and defying our will;
But let us not sink beneath the woe,
'Tis well, perchance, we are tried and bowed;
For be sure, though we may not oft see it below,
"There's a silver lining to every cloud."—*Eliza Cook.*

The day is drawing to its close,
And what good deeds, since first it rose,
Have I presented, Lord, to thee?
What wrongs repressed, what fruits maintained;
What struggles passed, what victories gained—
What good a tempted and attained,
As offerings of my ministry?—*Longfellow.*

FIFTH-BOOK CLASSES.

1.

What prodigies can power divine perform,
More grand than it produces year by year,
And all in sight of inattential man?
Familiar with the effect, we slight the cause,
And, in the constancy of Nature's course,
The regular return of genial months,
And renovation of a faded world,
See nought to wonder at.—*Cowper.*

2.

Let winter come! let polar spirits sweep
The darkening world and tempest troubled deep!
Though boundless snows, the wither'd heath deform,
And the dim sun scarce wanders through the storm,
Yet shall the smile of social love repay,
With mental light, the melancholy day!
And, when its short and sullen noon is o'er
The ice-chain'd waters slumbering on the shore,
How bright the faggots in his little hall
Blaze on the hearth, and warm the pictured wall!
—*Thomas Campbell.*

3.

There is a tide in the affairs of men
Which taken at the flood: leads on to fortune;
Omitted, all the voyage of their life
Is bound in shallows and in miseries.—*Shakespeare.*

4.

One adequate support
For the calamities of mortal life
Exists one vale; an assured belief
That the procession of our fate, howe'er
Sad or disturbed, is ordered by a Being!
Whose everlasting purposes embrace
All accidents, converting them to good.—*Wordsworth.*

Notes and News.

ONTARIO.

The executive and legislative committee of the Provincial Teachers' Association met in Toronto, early last month. A number of important matters were brought before the Minister, and a programme was arranged for next annual meeting. Among the topics provided are: 'Temperance in Schools,' 'Inductive and Deductive Methods of Instruction,' 'How to make County Meetings of Teachers more Useful,' 'Model Schools,' 'Music in Schools,' 'School Hours and Vacations,' 'Text-books in Public Schools.'

Mr J. L. Margach has been appointed Head Master of the Brockville Public and Model School. On leaving Pickering where he has taught for several years past, his friends expressed their high appreciation of his servies as a teacher by entertaining him at a supper where he was presented with a very flattering address accompained by a still more substantial mask of esteem in the form of a purse containing $130. This is just as it ought to be. We understand that Mr. Margach is a hard-working, energetic, faithful teacher and a man of sterling integrity. We trust he will be as successful in his new sphere as he has been in that from which he has retired.

The minutes of the twenty-first annual Convention of the Ontario Teachers' Association held last August, have been published, and may be had on application to Mr. F. S. Spence, Toronto. The book, which is neatly printed by Mr. C. Blackett Robinson, government printer, is for sale at a nominal price, and contains, apart from the formal proceedings of the meeting, the exceptionally instructive papers read before the Association, which will prove of intense interest to teachers and friends of the great educational cause.

Bath Public School, Mr. Wm. Irwin, Principal, passed two candidates for Intermediate Grade C, instead of one as reported in Sept. No. of the JOURNAL. Only two wrote, both of whom were successful.

Mr. J. W. Johnson, one of the Principals of the Ontario Business College, delivered a lecture on the subject of "Joint Stock Companies' Book-keeping," before the Institute of Accountants and Adjusters of Ontario, at Toronto, last month. The lecture is spoken of as a most interesting one.

From a corrected report received it appears that Kingston Collegiate Institute passed ten candidates at the late Intermediate Examination; not two as previously reported. In addition to this creditable result three have won higher grades. The information was in the first instance derived from a respectable newspaper, and the circumstance plainly shows how needful it is that High School Masters and others interested should communicate with us themselves rather than put us to the necessity of gathering items of educational intelligence from collateral sources.

Mr. W. R. Telford, late Head Master of Caledonia Model School, has accepted a similar position at Walkerton, at an increased salary. During the four years he has spent in Caledonia he has earned the respect of all classes of people, and although his leaving is regretted, there is a general feeling of satisfaction at his advancement.

St. Thomas Collegiate Institute is maintaining its position in the front rank, and, backed up by a large and efficient staff, has laid out a course for 1882 which is worthy of observation. Special attention is given to the several branches, particularly English, Mathematics, Languages, and Physical Sciences; while Intermediate course, University work, and Commercial training constitute an area to bring into requisition all the teaching resources available. The record of the past academic year shows, that 1 passed 2nd year's examination in Arts (Toronto University); 3 passed matriculation in Arts, 6 in Law and 6 in Medicine; and 27 passed the Intermediate, including 1 second A and 14 second B's.

Mr. James Bruce, for nearly nine years Mathematical Master, Waterdown High School, has resigned his position to accept the second mastership in the Elora High School.

The CANADA SCHOOL JUORNAL for November is a splendid number. The articles of a general character cannot fail to interest and edify any youthful reader, and the professional parts must be valuable to those for whom they are specially intended.—*Bowmanville Observer.*

NOVA SCOTIA.

Mr. F. W. Goodwin, who has successfully conducted the Preparatory Department of the Lunenburg County Academy during the past three terms, resigned in October last, and is now a student at the Halifax Medical College. His successor was Miss J. A. Coleman (Grade B), a Normal School Graduate. The Principalship is still held by Mr. E. H. Owen, who has occupied it, at three different periods, for nearly eleven years.

The last half-yearly public examinations were conducted by a number of professional gentlemen, residents of the town. The *Lunenburg Progress* states that "the pupils st od the test well, to the satisfaction of the examiners."

The Convocation of the University of Dalhousie College, in connection with the opening of the Annual Session, was held in the Hall of the Legislative Assembly, on the afternoon of Tuesday, 1st November. Among those present, besides the Faculty of the College, were Sir Wm. Young, Hon. S. Creelman, Dr. Allison, Superintendent of Education, Dr. R. S. Black, Principal of the Halifax Medical College, Hon. Judge Shannon, Dr. Burns, Revds. Saunders, Simpson, Morrison, Laing, and Duncan.

The opening address of the Very Rev. Principal, Dr. Ross, referred to the improved, and still improving, circumstances of the College, twenty-six students had already matriculated, and supplimentary examinations yet to be held would considerably augment the number. The Munroe Bursaries and Exhibitions were proving not only attractions to students but a most effective stimulus to scholarship.

Prof. McDonald, Secretary of the faculty, then gav the names of the successful candidates for the Munroe Exhibitions and Bursaries as follows:

Exhibitions—$200 each for two years; 1st, Isaac Gammel, Pictou Academy; 2nd, W. Aiton, Sussex School and Pictou Academy; 3rd, H. K. Fitzpatrick, Pictou Academy; 4th, John H. McLeod, Prince of Wales College; 5th, not awarded.

Bursaries—$150 annually for two years—*District 1:* 1st, Lily B. Calkin, Normal School, Truro; A. W. Thompson, Pictou Academy. 3rd, S. A. Mackenzie, New Glasgow and Halifax High School. 4th, W. M. Tufts, Halifax High School. *District 2*—1st, W. F. Kempton, Lockeport (private study); 2nd, Margaret Newcomb, Normal School, Truro; 3rd, not awarded. *District 3*—1st, James M. McLean, Inverness (private study); 2nd, not awarded. *District 4*—1st, Geo. C. Robinson, Prince of Wales College; 2nd, F. J. Coffin, Prince of Wales College. No Bursaries were awarded for District 5.

Special Bursaries of $100 a year have been awarded to Judson Crawford and Kenneth J. Martin of the Prince of Wales College, Charlottetown, under the same conditions as the ordinary Bursaries.

The inaugural address was then delivered by Rev. Mr. Forrest, the recently elected Professor of History. The learned Professor's paper, which was exceedingly well received, was mainly devoted to a review of the Colleges and Universities of America. In discriminating terms he expressed himself in favor of Collegiate Consolidation as the true educational policy for Nova Scotia.

The Rev. R. Laing of St. Matthew's Church, on invitation of the Principal, gave a spirited address, in which he advocated the removal of certain exclusive features still characterizing, in the Rev. speaker's opinion, the management of school affairs in the City of Halifax.

The proceedings closed with a few felicitous remarks from Sir Wm. Young.

The total number of students in attendance is stated to be 112.

Several changes in the teaching staff of Academies and High Schools have been announced, Mr. W. D. Dimock, A.M., for several years Principal of the Model School, in connection with the Provincial Normal School, Truro, having resigned his position, Mr. W. Mortimer McVicar, A.M., has been chosen to succeed him. Mr. E. J. Lay of the County Academy, Annapolis, has been engaged as Principal of a similar institution at Amherst.

Mr. C. F. Hall, former Principal at Amherst, has taken charge of the High School at North Sydney. Mr. J. M. Longley, A.M., is now Principal at Annapolis. Mr. Henry McIntosh (Grade A, 1881) has been elected to succeed Mr. J. M. Morton, A.M., as Principal of the County Academy, Shelburne. Mr. A. J. Denton, A.B., recently Principal of the Grammar School, Shediac, has returned to Nova Scotia, as Principal of the High School, Kentville.

In Halifax City there have been several changes. Mr. Peter O'Hearn has been appointed Principal of St. Patrick's School *vice* Mr. Scott, removed to St. Mary's. Mr. F. J. Bowles has been appointed Principal of Albro St. School, to succeed Mr. A. N. Archibald. Mr. Bowles' former position as Principal of the National School, has been filled by the appointment of Mr. Frank Andrews, A.B., of Acadia College.

The new Academy at Sydney, C. B., is to be opened for the reception of pupils after the Christmas vacation. It is a handsome and commodious edifice, containing eight large and well furnished apartments.

The reference to the Gilchrist Scholarship for the current year in the *Ontario Notes* for November should not be interpreted to the prejudice of Mr. Howard Murray (not Murray Howard), to whom the Scholarship has been awarded. Mr. Murray is the last man in the world who would wish to derive profit from an act of injustice to another. When summoned to present himself in London as winner of the Scholarship he was entirely unaware of the circumstances referred to. It may be added that he was in exceedingly poor health when writing for the Scholarship.

The annual session of the Provincial Normal School, Truro, was formally opened on the 9th November. There were present, beside the Faculty and Students, the Superintendent of Education and a large number of the clergy and leading citizens of Truro. Principal Calkin explained the revised regulations under which the Institution was resuming work. The inaugural address was delivered by Prof. F. H. Eaton, A.M., on the subject of Physical Education. It was a forcible and eloquent plea for greater attention to a much neglected branch of culture. On invitation of the Principal, Dr. Allison delivered a short address of advice and encouragement to the pupil-teachers. He referred to similar institutions in England and Scotland. Manifest as were the signs of educational activity and progress in the Old World, he was not led to be dissatisfied with the state and prospects of Education in our own country. Upwards of one hundred students were enrolled on the day of opening.

NEW BRUNSWICK.

NORMAL SCHOOL—THE FORMAL OPENING.

The formal opening of the Normal School, for the present term, was an interesting occasion. The exercises began at half-past two, in the Assembly Hall, in the presence of a fair attendance of citizens, including His Honor Governor Wilmot, Chief Superintendent Rand, A. F. Randolph, Esq., of the Fredericton Board of Trustees, Inspector Mullin, the teachers of the Normal and Model School, and others. The students marched in to an organ march by Prof. Cadwallader, and took seats in the central part of the hall. Shortly after, the Principal entered, with the Lieut.-Governor, Dr. Rand, A. F. Randolph, Esq., and other prominent citizens, all of whom took seats upon the platform. Principal Crocket introduced Chief Supt. Rand, who was received by the students rising. The Chief Superintendent then introduced His Honor the Lieut.-Governor, the students and audience rising and singing the National Anthem, Prof. Cadwallader at the organ. At the close of the anthem, Prof. Cadwallader played a fine organ selection from "Moses in Egypt." The Acadian students, twenty-five in number, occupied seats at the right of the platform, and attracted much attention. There were in all 156 applicants, of whom 137 were enrolled, nine having failed to come forward, and ten to be admitted. It was a matter of congratulation that the number failing to pass is much smaller than that of former terms. But the work was of a much higher order, and the results were very satisfactory. Another pleasing feature of the case is, that so large a number (74) were admitted on certificates. He alluded in warm terms of praise to the working of the Superior School Allowance as at present distributed. The counties send students as follows: Albert, 5; Carleton, 9; Charlotte, 5; Gloucester, 6; Kent, 12; King's, 21; Madawaska, 6; Northumberland, 8; Queen's, 8; Restigouche, 1; St. John, 13; Sunbury, 6; Westmoreland, 18; Victoria, 1; York, 26. Denominations: Baptist, 24; Congregationalist, 1; Church of England, 25; F. C. Baptist, 15; Methodist, 23; Presbyterian, 23; Roman Catholics, 35. He read a letter from Hon. P. A. Landry, regretting his unavoidable absence, and making special reference to the Acadian students.

Principal Crocket's address, which occupied nearly an hour in delivery, was couched in warm and encouraging terms. He pointed out the scope and intent of the course of study at the Normal School. He referred in a spirited and candid manner, with delicate humor and pathos, to his own early career as a teacher. He urged upon the students earnest attention to every subject of the course, so that, with intelligence and confidence, they might make their teaching effective. They must know far more of the subjects than they are required to teach, else their teaching would be defective in method and substance. He next pointed out the special work of the School, which referred to their profession. Teaching was a science, based upon fixed and immutable principles. It had a definite object in view, and this could only be completely obtained by an intelligent application of the laws of mental and moral development. Childhood's nature and wants were now better understood than formerly, and our literature and art teemed with rich allusions and illustrations of the mental and moral nature of childhood. He referred, at some length, to the order in which the work would be undertaken, and closed with an eloquent appeal to the students to devote themselves with a strong, earnest, and resolute will to the grand work before them.

Dr. Rand eulogised the address of Principal Crocket, and said he must repeat a remark made by Prof. Smith, of Boston, on hearing an address of Principal Crocket's before the Provincial Institute, last summer, "It is a great treat to hear a sensible man talk." He pointed out to the students that the teachers of the Normal School were to be looked upon as helpers—sympathetic and encouraging to all. They must come to their work in a spirit of reverence and deep humility. He took up the statistics of the admission, and expressed his satisfaction at the large number coming in under departmental certificates. He criticized the present Grammar School system, and declared it unjust and impolitic. The one thing now needed was the distribution of the grant upon the same principle as that of the Superior School allowance.

The students who had been admitted on certificate were then called upon to receive their certificates.

They were addressed by His Honor the Lieut.-Governor in fitting and encouraging terms, and the certificates presented by Dr. Rand. The certificates are very neat in design, and embellished with the Provincial Coat of Arms, and the seal of the Board of Education. They state that the pupil has passed a successful examination in Standard VI, or VIII, as the case may be; certified by the Inspector, and signed by the Chief Superintendent.

Inspector Mullin was introduced, and referred in very favorable terms to the present Course of Instruction and Inspectoral System.

Hon. Senator Wark pointed out the great advantages which the present students possessed over those who first undertook the teaching work in this Province.

The exercises, which, throughout, were of a very interesting character, were closed shortly after 4 o'clock, by the singing of the Dismission Hymn.

Teachers' Associations.

The publishers of the JOURNAL will be obliged to Inspectors and Secretaries of Teachers' Associations if they will send for publication programmes of meetings to be held, and brief accounts of meetings held.

TORONTO.

During his recent visit the Rev. Mr. Pinkham, superintendent of the Protestant Public Schools of Manitoba, delivered an interesting lecture in the Educational buildings, before the Toronto Teachers' Association, on the subject of "Educational Work in

Manitoba." Rev. Dr. Davies occupied the chair, and in rising to introduce the reverend lecturer he stated that he had expected the Hon. Adam Crooks, Minister of Education, would have presided. That gentlemen, however, was unavoidably absent. Rev. Mr. Pinkham, having briefly alluded to the very kindly reception which he had received in Toronto and elsewhere, proceeded to say that he had been sent on a mission of enquiry by the Protestant Board of Education of Manitoba, of which he had been superintendent for ten years, into the eastern provinces. It would be his duty to inspect the Normal and High Schools in this part of Canada and the United States, with a view to the introduction of similar schools in Manitoba at an early day for the training of their own teachers. Although not an Ontario man himself, he was glad to be able to say that the board of education he represented had drawn largely upon the province for its teachers, and although the Prairie Province was only in its infancy it was already reaping a rich harvest from the educational seed which had been sown years ago by the venerable Dr. Ryerson, whose illness he regretted to say prevented him at present receiving visitors. Consequently it was comparatively easy work for the people of Manitoba to deal with their educational matters. The lecturer then proceeded to give a history of the early days in that province, when they could boast only of parochial schools; but was glad to be able to say that these schools, which were conducted under the auspices of the Roman Catholic priests at St. Boniface, by the Anglican clergymen at St. Johns, St. Andrews, and other Church of England parishes, and at Kildonan, under Rev. Dr. Black, did splendid service. In 1871 the Provincial Legislature passed the first School Act in Manitoba. It contained only four pages. This Act provided for establishing an educational board, which consisted of fourteen members—seven Protestants and seven Roman Catholics; and this board had the power of establishing all the Public Schools in the province, whether for the use of the Roman Catholic or Protestant children. In the latter part of 1871, the first Public School was opened in Winnipeg under Mr. Luxton, the present editor of the *Free Press* newspaper, who had only twenty-three pupils. At the present time there were about 1,000 pupils in attendance at the Protestant schools there, with sixteen teachers. The board, as originally established, worked very harmoniously; but it experienced much difficulty in establishing schools, and it was finally deemed prudent to add greatly to the school law, and provide for exigencies previously overlooked. This has been done from time to time. The Board of Education now consists of twenty-one members, twelve of whom are Protestants, and nine Roman Catholics. The schools are now managed in sections, separately, by both Protestants and Roman Catholics. The Act also provided for the levying of a school tax, each body being assessed only for the support of its own schools, and each section has a superintendent. The law had also been altered so as to give the school trustees the exclusive right of fixing the amount of taxes required for school purposes. The Legislative grant for education is divided between the Protestant and Roman Catholic sections of the Board of Education on the basis of the census returns of the children of school age in their respective districts. The grant this year was $21,000, of which the Protestant board received $14,000. The new order of things, by which the school trustees were enabled to get whatever sum they deemed necessary for school purposes, had given a great impetus to education in Manitoba. The reverend gentleman spoke in very high terms of the educational outlook, of the establishment of the Manitoba University, and of the composition of the council thereof. He pointed out that between two and three million acres of the best land in Manitoba were set apart for school purposes, and he looked forward to the time when the Dominion Government would give a handsome grant in aid of the university. These lands were worth $5 per acre, and the school board had already drawn $10,000 a year for three years on this credit from the Government. With regard to the establishment of High Schools he thought it prudent to work them in connection with the Public schools; and he proposed not to have what we called Collegiate Institutes or High Schools, but a higher grade of school under the same board of trustees. The pupil would step out of the highest grade in the Public Schools into the university. Here they might take scholarships, and afterwards pursue their studies in the affiliated colleges. The reverend gentleman presented a glowing picture of the fertility of the great North-West, the value of which to the Empire he said was incomparable. It was the finest country, in his opinion, on the face of the earth.

South Hastings.—This Association held its semi-annual meeting in the Central School Buildings, Belleville, on Thursday and Friday, 29th and 30th September. The President, J. Johnston, I. P. S., occupied the chair. After disposing of the regular routine of business, Mr. J. W. Dafoe, delegate to the Provincial Association, gave a report of the proceedings of that body, particularly that part relating to the proposed amendments in the school law with regard to the superannuation fund. An animated discussion on the regulations relating to the granting of Third Class certificates, in which part was taken by Prof. Dawson, Messrs. Irwin, Dafoe, and the President, followed. Mr. G. S. Wilson took up the subject of "Reading, Junior Classes," giving a practical illustration of his method of teaching this important subject by means of a tablet class, and a class in the second book, from his own school. Mr. Wilson's plan of gaining and keeping the attention of a class shows him to be a thoughtful, painstaking teacher. Prof. Stanistreet played and sang Sullivan's "Looking Back" in his usual brilliant style. Mr. Johnston, I. P. S., gave some valuable hints on teaching Spelling and Dictation, advising teachers to see that the pupils keep a list of the words they misspell and frequently review them. After a recitation by Master Harry Pashley, Prof. Dawson took up "Reading," pointing out the principal faults readers are apt to fall into, and the way to correct them. He considered our text-books, on reading, were not adapted to the wants of our schools, more particularly the Fifth Reader. Miss Bollard and Miss Diamond sang "Beautiful Star" with good effect, after which G. A. Swayze, Writing Master of the Belleville High and Public Schools, gave his method of teaching the subject of "Writing." Miss Harold rendered "Jessie, the Flower of Dumblane," followed by "Business Papers," by J. W. Johnson, Principal of the Ontario Business College. Mr. Johnson's discourse was replete with valuable hints to teachers and others on the subject of Promissory Notes and Bills of Exchange, and the latest decisions in the courts of law relating to them. A hearty vote of thanks was tendered Mr. Johnson for his able and instructive address. Short addresses were delivered by the Rev. Mr. Burns, Rev. D. Mitchell, Rev. A. Schuster, Rev. Dr. Jaques, and Rev. B. Law. On second day, Mr. Wheeler took up the subject of "Elementary Arithmetic," giving a practical illustration of his method of teaching this subject. A lively discussion followed, Messrs. Irwin, Dafoe, Johnston, Hicks, and others taking part, and much valuable information was elicited. Mr. Johnston, I. P. S., followed with an excellent address on the method of teaching "Geography," and closed with a list of the railways of Ontario, and the principal stations on their route. "Composition," by H. M. Hicks, Head Master Trenton High School, was the next subject taken up. Mr. Hicks gave some excellent advice on the teaching of this important but much neglected subject. After an address from the Rev. Mr. McLean, Mr. O'Hagan sang "Man the Life Boat," and Mr. Moore "The Sailor's Grave," which were both well received. Mr. O. S. Hicks then explained how he would deal with the Infinitive Mood, illustrating by a number of examples. Miss Carr sang "Music in the Air," Miss Florence Hicks presiding at the organ. Miss Boswell sang "I Cannot Sing the Old Songs," and Miss Diamond and Miss Harold sang "When you gang awa, Jamie," all of which were well rendered and received with bursts of applause. The institute then adjourned. Arrangements had been made with the Rev. Dr. Jeffers to deliver an address to the teachers on Thursday evening, but owing to the sudden indisposition of the Doctor, the lecture was postponed.

Glengarry.—The regular half-yearly meeting of the Glengarry Teachers' Association was held in the Brick School House, Alexandria, on Thursday and Friday, September 29th and 30th. About sixty teachers were present from different parts of the country; the chair was occupied by Dr. McDiarmid, Inspector of Public Schools, and President of the Association. After routine business, the Secretary read some communications with regard to the terms on which certain school Journals could be supplied to the Association. He also read a report of the proceedings of the Provincial Teachers' Association with regard to the Superannuation Fund. Mr. Seldon read an excellent paper upon "Object Lessons," which commanded the careful attention of the meeting, and was followed by a discussion in which Messrs. Houston, Hunter, and Kennedy took part. W. D. Johnston, B.A., of the Alexandria High School, read a paper on "English Literature for the Entrance and Intermediate Examinations," which was very attentively listened to by the teachers present. An animated discussion followed, sustained by Messrs. Hunter, McDiarmid, Kennedy, McDonell, Johnston, and Houston, in the course of which some very valuable hints were thrown out with regard to the best methods of teaching this important and interesting subject. Dr. McDiarmid gave his method of questioning a class, introducing ideas calculated to be of great use to the teachers present. Remarks were made upon this subject by Messrs. Hunter, Houston, McDonell, Seldon, and Johnston. Mr. Grant of Dalhousie Mills read a paper on "Geography," devoting his attention chiefly to Mathematical Geography, and going over the subject very carefully. After a short discussion, Mr. Johnston gave a reading. The subject of Reading was then introduced in a very able manner by Mr. Kennedy, Head Master, Model School, Martintown, and after remarks and suggestions by several members of the Association, Miss Smart gave a reading very nicely. Mr. J. D. Houston of Lancaster gave a very excellent address upon "Uniform Promotion Examinations for the Schools," mentioning strong

arguments in their favor. In this connection Dr. McDiarmid spoke concerning a scheme of Promotion Examinations for the three counties, now under consideration by the Inspectors, and which might be introduced with advantage. It was moved by J. D. Houston, seconded by D. J. Hunter, That the Glengarry Teachers' Association is of the opinion that the payment of any tax or subscription for the support of the Superannuation Fund for Teachers should be optional. After some discussion, *pro* and *con*, this motion was carried. This brought to a close one of the most successful meetings yet held by this Association.
W. D. JOHNSTON, *Secretary*.

NORTH HASTINGS.—The semi-annual meeting of the North Hastings Teachers' Association was held at Madoc, October 6th and 7th. The usual routine bus ness was disposed of, and a motion to purchase a sufficient number of copies of the Minutes of last meeting of Provincial Association, to supply each paying member with a copy, was carried. The Treasurer was instructed to publish a detailed statement of the receipts and expenditures in connection with the promotion examinations. A short dis ussion took place on ' How to improve those Examinations,' and examiners were appointed for the Christmas examinations. The following subjects were discussed during the Convention : Reading to 2nd, 3rd, and 4th Classes, Grammar, Canadian History, introduced by Mr. Smith, I.P.S., Hamilton and Wentworth, to wh m much of the success of the Convention is due ; English History, introduced by Mr. Kirk, Principal Model School, Madoc. The Railroad System of Ontario, by Mr. Rowe, Marmora. Writing, for the discussion of which the Association was fortunate enough to obtain the services of Mr. Robinson, Business College, Belleville. Spelling, introduced by Mr. Mackintosh, I. P. S., North Hastings, who also gave an address to teachers. A very hearty vote of thanks was given Mr. Smith for the very valuable assistance he had given in making the Convention a success ; and also to Mr. Robinson for his instructive address on writing. On the evening of the 6th, Rev. Dr. Jaques, Albert College, Belleville, delivered a very interesting lecture on "Professional Enthusiasm," to a large and most attentive audience. *Secretary*, N. H. T. A.

DUFFERIN.—The Dufferin Teachers' Association met in Orangeville Model School, on October 14th and 15th. The first forenoon was spent in visiting the various departments of the school as it remained in active work during that time, The meeting being called to order, the President, Mr. N. Gordon, P. S. I., delivered the opening address. Besides essays read and classes taught by the Public School Teachers of the County, the proceedings were enlivened by the presence of Messrs. Hughes, P.S.I.,(Toronto), Steele, B,A., and Tait (Collingwood). Mr. Tait gave his method of teaching English History and al o Senior Arithmetic. Mr. Steele's subjects were, Algebra to beginners, and Analysis and Parsing of "The Preacher," from the *Deserted Village*. Mr. Hughes addressed the Association on Drawing in Schools, and the Sol-fa System. On Friday evening, October 14th, J. Laughlin Hughes, Esq., P. S. I., Toronto, lectured in the Town Hall, to a large audience, on "School Room Humor." The lecture, which lasted nearly two hours, caused constant risibility and was received with round after round of applause. The officers elected for the ensuing year are :—President, A. Steele, B.A. ; Vice-President, R. L. Mortimer ; Secy.-Treas., F. B. Denton. Journal secretaries were appointed at the opening of the meeting to send a *resume* of the proceedings to each of the local papers, and to the Educational periodicals.

LANARK.—The half-yearly meeting of this society was held in the Convocation Hall of the Collegiate Institute, Perth, on Friday and Saturday. Through the effort of the managing committee, a first-class programme was provided. After the preliminary business had been transacted, a practical and appropriate address was delivered by the President, F. L. Michell, Esq., County Inspector, in which general educational topics were touched upon. He indicated methods by which our school system might be made more efficient, dwelling particularly on the duties of trustees with regard to visiting their schools, and of teachers with regard to the character of the reading in which they should spend their spare time. The address was replete with timely remarks and was well received. Mr. McCarter then illustrated his method of teaching grammar by calling up a class of teachers present. This elicited a large amount of profitable discussion. An interesting paper entitled "Gleanings," was then read by Mr. Jamieson, of Carleton Place, in which various interesting points were adverted to. The subject of composition was next introduced by Mr. Steele, Head Master of the County Model School, in a well-conceived and well-written paper, in which the importance of teaching English by written exercises was thoroughly recommended. At the opening of the morning session of Saturday, Mr. Birchard exemplified, by diagrams, his method of teaching fractions to junior classes. His treatment of the subject was able and well received. Mr. Guttridge was the next on the programme. He read a paper on history in which he indicated the place this subject should occupy in our schools, and the method he had adopted in teaching it ; criticising by the way the authorized text books, and particularly animadverting upon Creighton's history primer. Several gross blunders in syntax were instanced and the style of the author characterized as bad. The subject was well presented and his views met with general approbation. A lecture on "Retention of Ideas," was then delivered by Mr. Whittington. In a well arranged scheme he represented the various faculties of the human mind and the part each performs in the acquisition of knowledge. He suggested methods for improving the intellectual powers, calling particular attention to the fact that the imagination, having once become morbid, torments its unhappy possessor by its own alse creations. How careful then we should be to keep the mind pure, so that no unclean bird should hover within its sacred precincts, nor should we be less careful that the children entrusted to our care should, as far as in us lies, be prevented from reading obscene literature or witnessing scenes of an immoral character. He strongly condemned the reading of "yellow-covered" literature. The last paper was an elaborate treatment of "Mood" by Mr. Clarke, of the High School, Smith's Falls. He drew his illustrations from the classics, Anglo-Saxon, French, and German. Though taking exception to some particular point, his views were in the main those of Mason. Great care must have been expended in the preparation of this well-written paper. The county was well represented by a large body of teachers, who seemed to take a lively interest in the various educational matters brought before them. Votes of thanks were tendered to all the essayists, and to the Board of Education for the use of the hall. The next meeting will be held in Almonte.

PRESCOTT.—On the 14th and 15th Oct. a convention of the Teachers of the County of Prescott was held at Vankleek Hill. More than fifty Teachers and other friends of education were present. The President, Mr. W. J. Summerby, I.P.S., opened the first day's proceedings with an address on "The Teachers." In regard to some of his remarks, a discussion followed in which Messrs. Page, C. R. Gray, N. G. Ross, and H. Gray took part. Mr. Alex. Johnston, Fournier, read an essay on "How to Teach History to a 4th Class," which was received with approval by the Association. Comments on this subject were also made by Messrs. Summerby, Gray, and Ross. "The different systems of questioning" was taken up by F. Bisset, Esq., L'Orignal, who discussed this subject very minutely. In the afternoon an eloquent address on "English Composition" was delivered by T. Otway Page, B.A. He dwelt chiefly on the construction of sentences, and on the proper arrangement of words, phrases, and clauses, in order to convey the idea intended. Special reference was made to the misplacing of "only," and the use of "if," for "whether.' After the conclusion of his address, the remarks then made by Messrs. Gray, and Ross, forced him to make a defence of some of his statements. An essay was read by Mr. C. R. Gray, which was a tirade on the Teaching Profession. Mr. N. G. Ross, Plantagenet, explained his method of teaching "Cube Root" by means of cubical blocks. Mr. O. Duford delivered an address in French, and the afternoon session closed. In the evening "A Musical and Literary Entertainment" for the benefit of the public was held in the Town Hall. *Programme.*—The Reading of Mr. C. R. Gray's Essay ; Solo, "British Lion" by Wm. McKillican, Esq. ; Reading, on the "Theatre," by H. Gray. Addresses by Rev. S. G. Phillips and T. Otway Page, B.A. ; Recitations, by Miss A. Phillips, and Mrs. H. Gray ; Reading, "Hohenlinden" by J. Nason, B.A. The proceedings were frequently enlivened by choice and well rendered selections from the efficient choir under the leadership of Wm. McKillican, Esq. "The Proper Method of Teaching Arithmetic from Addition to Proportion" was illustrated by Mr. M. Lefebvre. A discussion followed, in which Messrs. Page and Ross took prominent parts. An able essay on "Junior French Reading," was read by J. Belanger, Esq., L'Original. He was followed by Mr. O. Duford, Asst. I P.S., who made some appropriate remarks on the same subject. Comments on "Discipline," the last subject on the programme, were made by H. Gray, Esq., H.M.M.S. He endeavoured to explain how a school should be conducted, and to state what punishments should be resorted to, in order to correct and prevent certain irregularities. An animated discussion then took place in which Messrs. Summerby, Page, Ross, and C. R. Gray made remarks upon several of the statements advanced. The following resolutions were passed at this meeting : That Mr. T. O. Page, B.A., be appointed Librarian in place of Mr. Summerby, resigned. That the next meeting be held, on the 9th and 10th of June 1882, at such place as the Managing Committee may select : That a vote of thanks be tendered to the choir and others who assisted at the entertainment, to the Municipal Council of West Hawkesbury for the use of the Town Hall, and to the Public School Board for the use of the Public School Buildings.—HENRY GRAY, *Secretary*.

MANITOBA.—The fifth convention of the Manitoba Teachers' Association began its work on Friday, Oct. 14th in the court house, at 10.30 o'clock, the President, Rev. W. C. Pinkham, Superintendent of Protestant Schools, in the chair. The members present were the following : Rev. W. C. Pinkham, superintendent of education ; Mr. J. H. Stewart, inspector of the city schools ; Messrs. W. A. McIntrye, J. B. Ferguson, J. Hunt, J. Acheson, A. Springer, E. Blakely, E. Garratt ; Misses Roblin, Maggie Eyres, Aggie Eyres, McIlroy, Wright, Harvey and McEwen, city ; and Messrs. N. Hewitt, St. Paul ; W. S. Pope, Little Mountain ; W. Duncan, Victoria ; F. Shore, Balmoral ; J. B. Adams, Cook's Creek ; A. H. Monkman, North High Bluff ; J. Kelly, Headingly ; J. P. Dill, Westbourne ; A. E. Smalley, Central St. Andrews ; F. F. Kerr, Sturgeon Creek ; John May, North Springfield ; Miss Bella Hargrave, city ; Mr. J. M. Robinson, Wood-

lands; Mr. Alexander Acheson, St. James; Miss Shore, Miss Lafferty, city. The proceedings were opened with reading of the Scriptures and prayer by the President. The several committees made their reports. Mr. Garratt suggested the desirability of increasing the membership fee, so as to provide the amount requisite for the payment of the subscription price for numbers of the CANADA SCHOOL JOURNAL sufficient to supply the members of the association with copies. Mr. Ferguson pointed out that the annual membership fee was fixed at 50 cents by the constitution, and that it would not therefore be changed except by a two-thirds vote, and notice of motion given at the preceding meeting. On motion of Mr. Stewart, seconded by Mr. Ferguson, the secretary was instructed to telegraph to the publishers of the JOURNAL to ascertain the price per year for which they would furnish the JOURNAL to this association. On motion of Mr. Ferguson, seconded by Mr. Springer, Miss McEwen and Miss Maggie Eyres were appointed scrutineers. Mr. Hunt was appointed to act as Secretary during the tempory absence of Mr. McIntyre for the purpose of sending a telegram as instructed in the resolution passed. Ballots having been taken for the several offices, and the reports of the scrutineers having been received, the following officers were declared elected: President, Rev. W. C. Pinkham, re-elected; 1st Vice-President, Mr. J. H. Stewart; 2nd Vice-President, Miss Wright; Secretary, Mr. W. A. McIntyre, re-elected; Treasurer, Miss Maggie Eyres. The afternoon session was opened at 1:30 o'clock, the President in the chair. The first business taken up was that of balloting for five councillors. From the scrutineer's report the following were declared elected: Miss McEwen and Messrs. Ferguson, Hewitt, Hunt and Garratt. The general business of the association being thus far concluded, the reading and discussion of papers bearing on school work were entered upon. Mr. Stewart having in accordance with the programme of arrangements, being called upon to read the first paper, then introduced his subject which was "School Routine." He said that in the course of ten years experience in connection with teachers' institutes, he had been led to the conclusion that the first aim should be to make the exercises practical. It was of too frequent occurence that the themes chosen, although highly elaborated and embellished, were of no practical importance. Again the complaint was often made that while the object of the meeting was that the members should profit by the accumulated experience of all, yet comparatively few of the teachers took an active part in the proceedings. In view of these facts he had determined not to prepare any special paper, but to touch upon some of the elementary principles, and take up some of the smaller difficulties with which the teacher had to contend at the very entrance to his profession. He proposed to deal with the classification of the pupils, the government of classes, and the general conduction of the schools. To secure practical benefit, and to elicit the views of the members present, he proposed to have the teachers formed into a class, and to call upon them in order for expressions of their opinions on different subjects. Proceeding accordingly with the formation of a class, he then called upon the members present, by number, to state their practice and their views resulting from their experience in reference to such points as the following: the best method of calling in the scholars at the opening of the school exercises; calling them from their seats to their positions in classes; the bodily positions to be assumed by the pupils while reciting in class; the changing of the relative positions of the pupils in class; methods of dismissing classes; the teacher's position of body while hearing classes recite; seats; employment of monitor; how to deal with children coming to school late, etc. A considerable variety of practice, it appeared, was followed by the various teachers, and the different views held were enunciated with considerable interest and animation. After a large number of the teachers had taken part in the discussion, Rev. J. B Silcox addressed the association briefly, advocating with much force the practice of insisting with the utmost strictness upon absolute punctuality. Messrs. Adams, McIntyre, Hunt and Ferguson, also Miss Lafferty, spoke on the same subject. The President then closed the discussion with a few remarks. He said that the matter was largely in the hands of the teacher. He suggested that making the school a place where the pupils like to be was the most effectual means of promoting punctuality of attendance. In some respects the fewer the rules laid down, the better. Rules could not be laid down that would apply to every case. One of the best ways by which the teacher should aim to secure punctuality was by being punctual himself. It was a very common thing for teachers to be late; but where they were as punctual as they ought to be, the pupils would be also. Mr. Stewart then concluded his remarks by stating that he had, for some years, kept a note book in which he had recorded his observations upon school work, noting the various difficulties with which he had met and the means by which he had solved them. In visiting different schools he had noted how other teachers had overcome particular difficulties. From his note books thus prepared, he had selected the subjects which he had to-day brought before the association. He commended a similar course to the teachers, on the ground that it would afford them opportunities of reviewing their work from time to time and seeing wherein they had succeeded and wherein they had failed. Mr. Adams was next called upon to read a paper, the subject of which was, according to announcement, "How to make a child wish to come to school," (which will appear in next month's JOURNAL). It was then resolved, on motion of Mr. McIntyre, seconded by Mr. May, that the association request the publication in the newspapers of the city, and also in the CANADA SCHOOL JOURNAL, of Mr. Adams' paper. The meeting then adjourned until nine o'clock next morning, and the benediction was pronounced by Rev. A. McDonald. The second day's proceedings commenced at 9:30 o'clock on Saturday morning, the inspector of the Winnipeg schools taking the chair in the absence of the President. The meeting opened with devotional exercises, conducted by the Rev. J. B. Silcox. Following the programme of arrangements, Mr. Hewitt then read a paper on "The Teachers' Appearance in the School Room." (This paper will also appear in our next issue, ED. C. S. J). In the absence of Mr. Martin, of High Bluff, who had been expected to read a paper on grammar, the following business was, on motion, taken up: Mr. Stewart presented a report of the committee appointed to prepare a system of uniform promotion examinations; and the last hour of the forenoon session was spent in considering the same. The report was taken up clause by clause, and, after an interesting discussion of a number of the clauses, it was on motion of Mr. Hewitt, seconded by Mr. Blakely, referred back to the committee with the request that they report again at the next meeting of the association. At noon the meeting adjourned until 1:30 p.m. *Fourth session.*—At the opening of the afternoon session the President rose and said that he had great pleasure in introducing to the association Mr. Stewart Mulvey, chairman of the Protestant board of school trustees, Winnipeg, a member of the Board of Education, and an old teacher, who had kindly assented to address the association. Mr. Mulvey, in response, read the following paper, "Should corporal punishment be retained in our Schools?" (which we shall publish in a future number of the JOURNAL). On concluding his address, Mr. Mulvey was warmly applauded. Mr. Acheson, in introducing the discussion of the paper, referred to his experience in the State of New York, where corporal punishment, though nominally abolished by the law, was practically retained. He agreed with the position that in most cases such punishment need not be resorted to. Mr. Ferguson agreed with the sentiments of the paper, but thought that a teacher lessened the esteem entertained for him by the parents of the children whom he punished. Discretion should be used as to the offences for which corporal punishment was employed. Mr. Hewitt believed that a teacher would be all the more respected if he punished judiciously. He should so punish that the child himself would acknowledge the punishment to be justly administered. Mr. Adams thought that a teacher would lose esteem more by currying favor than by acting with manly independence. Punishment should be reduced to a minimum. An ounce of honest praise—not fulsome adulation—went further than a pound of correction. The less threatening employed, the better. Punishment should be short, sharp, soon over and well felt, and then no more allusion to it. Pupils should know that the teacher had power to punish. Mr. Hunt was in favor of punishing according to natural law, or making the punishment like the natural result of the offence. Mr. Springer illustrated the good effects resulting from corporal punishment judiciously administered. Such punishment, as was known, was more practiced in the old countries than in Canada. Mr. Stewart suggested the use of the negative punishment or refraining from marks of kindness, as effective in many cases. Still, the use of corporal punishment was at times necessary. It should then be so employed as to increase rather than diminish the affection of the child. Mr. W. F. Luxton expressed his agreement with the positions taken in the paper. The end to be arrived at was to maintain discipline, and it was not advisable to lay down cast iron rules as to the particular instances in which corporal punishment should be administered. The President expressed thanks to Mr. Mulvey, on behalf of the association, for his valuable paper which he had so carefully prepared and given. On motion of Mr. Stewart, seconded by Mr. Acheson, the association requested the publication of Mr. Mulvey's paper. It was resolved, on motion of Mr. Stewart, seconded by Mr. Garratt, that Mr. Stewart Mulvey be made an honorary member of the association, and that he be notified by the Secretary to this effect; also that the Secretary convey to him the thanks of the association for the help which he has so kindly given. The President briefly addressed the association. He expressed himself as sure that the suggestions thrown out in the papers and in the discussions would do good particularly to the teachers, but also to all others present. He urged the importance of all teachers becoming members of the association. He was exceedingly grateful to those who had taken up the matter this year. He recommended that all, both old and young, should take an interest in the work of the association; and that none would consider himself too young or inexperienced to take part. As the Saviour drew from little children the lessons that those about him should learn, so the least experienced might teach exceedingly valuable lessons to those who were the most experienced. It was within the power of the teachers to make the association a success and a great good throughout the province. He hoped that those to whom the committee might assign work for the next convention would consider it their solemn duty to do the very best they could with the subjects assigned. In conclusion, he expressed his intense satisfaction, in view of the kindness and courtesy the association invariably received from the press of the province. He had always felt that they owed a great deal to the press of the City of Winnipeg for the willingness which they had invariably shown to publish anything worth publishing. Moved by Mr. Stewart, seconded by Mr. Acheson, and carried, that the publishers of the CANADA SCHOOL JOURNAL be asked for quotations for fifty or one hundred copies of their journal, and that the Secretary notify the members and teachers through the press what subscription sum would entitle them to the journal for one year, as well as all the privileges of the association, and also whether they would have to remit such sum to secure the desired privilege A resoltuion for adjournment having then been passed, the President pronounced the benediction.

REVIEWS.

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ADAMS' ILLUSTRATED CHART OF BIBLICAL AND SECULAR HISTORY, FROM 4004 B. C. TO 1881 A. D. Combining *Object Lessons in History* for children, with tabulated and synchronized history for both day and Sunday schools. It constitutes a complete encyclopædia of history and chronology, for schools of all grades, for family use, for private students, and is indispensable to every well-equipped library. *5 Union Square, New York: Colby & Co.*

This great practical Chart is a chromo-lithograph, mounted on canvas, is about twenty-one feet long by two and one-quarter feet wide, and is in *three* styles: On Rollers, turned by cranks, and occupying such space on a wall as may be desired for family or school use; in Portfolio form, for table use; and in Book form, bound in paper, hinged on cloth. We give our readers the following general description of this superb work:

The length of the Chart is divided by perpendicular lines into the fifty-nine centuries and their decades; across these century columns pass, from left to right, colored lines or streams that represent the different historic nations (and lives of the patriarchs), and change their color to indicate every change of rulers: these streams divide, subdivide, unite, or disappear according to the record of the nation represented; thus every nation, with its consecutive rulers and all the leading facts of history, are placed upon a fixed scale and presented to the eye in their proper relations as to time, just as, geographically, a map locates towns, rivers, and countries. Meridians intersect places of the same longitude, in the same manner that century and decade lines on this Chart mark contemporaneous nations, rulers, and events.

The origin of nations, their grand march through the centuries, and their final overthrow, are prominent features of the Chart, while the confused mass of dates and events, that usually comprises our knowledge of history, is so sifted and synchronized by it, so lighted with colors, models, and illustrations, that the centuries of the past seem transformed into individual realities, marked with their peculiar characteristics. *The plan of the Chart is so simple that children can readily understand it*, and so *comprehensive* that it is in itself an *Historical Encyclopædia* for the *mature scholar*.

Beginning at the *left* (everything runs from left to right, from the past to the present), among the world's great eras and events so attractively presented on this panorama, may be noted, in the line of sacred history, the genealogy of the patriarchs, the genealogy of Christ, the Deluge, the Call of Abraham, the Bondage in Egypt, the Exodus, the Division of the

Kingdom, the Loss of the Ten Tribes, the Captivity in Babylon, the Restoration, and the Crucifixion. In secular history we trace the lines of Phenœcia, Egypt, Babylon, Assyria, and Greece, for some seventeen hundred years, and find few changes. Then we see indicated the fall of Babylon, the massing of power under the great Persian Empire, Alexander's kingdom, Rome engulfing the national streams of the world, its fall in the fifth century, A.D., and the rise and progress of the modern nations to the present time.

Thus all that is known of human history is spread out clearly before the eye, quite as plainly as what is known of the earth's surface is delineated on the best map. The comprehensiveness of the Chart is surprising. It enables the reader to readily trace the contemporaneous events of any period of the world, decade by decade, and century by century, while it outlines for him the successive rulers, conquests, and losses of each nation throughout all historic time.

The work is not denominational, as it is in use in the leading English and American Protestant Libraries and Educational institutions, and it is also endorsed and used by Cardinals McCloskey and Manning; Chancellor Thomas S. Preston; *The Tablet*, London; Mgr. Agnezzi, Sec. Propaganda Fide; His Eminence Cardinal Newman; *The Oratory*, England; Manhattan College, New York; Mount St. Vincent Academy, New York; and many of the Colleges, Convents, and Parochial Schools in New York and elsewhere.

Sir Charles Reed, President London (Eng.) School Board, also says:—"The author does not need a monument over his grave."

A Key is furnished, which explains the Chart so simply and so thoroughly that a child cannot fail to understand it. The Indices save much valuable time, and add vastly to the pleasure of using the Chart. The names of rulers and eminent men are carefully syllabled and accented according to *Thomas' Pronouncing Dictionary of Biography*. This Chart must be examined to be fully appreciated. No mere description can convey an adequate idea of its practical worth to teachers and students. Even primary teachers will find it of great value in giving *object*-lessons on historical, geographical, and general topics. It enables them to instruct, through the eye, the mind of every child, and it will awaken and stimulate interest and investigation on the most important subjects. The author has, with a vast amount of critical study and adjustment, planned and executed his work upon the principle that what we see in picture is *remembered*, while what we read is soon forgotten; and he has, with consummate skill, produced what has been styled a photograph of universal history and chronology. We heartily commend it to teachers, school-officers, and to the people generally. It is now being used in many of the best schools, and when its simplicity, its comprehensiveness, the grand series of historical object-lessons it presents, and the attraction it gives to the much-neglected study of history becomes known, it will be considered indispensable in every school-room, study, and family living-room. It is an admirable present for child, parent, or pastor.

As the Chart is not sold by or through the *trade*, a *few* of the best agents will be given entire control of general agencies. Any information in regard to this Chart can be obtained of John E. Colby & Co., publishers, 5 Union Square, New York city.

THE FRANKLIN ARITHMETICS—Primary, Elementary, and Written. By E. P. Seaver, A.M., and G. A. Walton, A.M. Boston: William Ware & Company. These books are the joint work of Mr. Seaver, present Superintendent of the Boston Schools, and Mr. Walton, Agent of the Massachusetts Board of Education, and fully sustain their reputation as teachers and authors. In the *Primary* Arithmetic, numbers are taught by the objective method. Almost every page contains pictures appealing to the child's powers of observation, and suggesting to the teacher what objects to use and how to use them. All the language and operations of elementary arithmetic are brought into play while the child is using small numbers. To the primary tercher, puzzled how to make first steps in arithmetic not only intelligible but interesting to young children, this book will be a revelation. The *Elementary* Arithmetic, though designed as an introduction to the *Written* Arithmetic, contains a complete short course suitable for pupils who leave school early. The four fundamental rules are very thoroughly treated. The *Written* Arithmetic contains a full course of arithmetical instruction and drill. Illustrative examples develop the principles of each successive topic. Oral exercises precede the slate examples which are the best we have ever seen for developing the reasoning faculties of the pupil and at the same time preparing him for ordinary business affairs. At the close of each section there are questions for review of theory, problems for review of the topics discussed in the section and slate exercises in great number and variety on all previous work. A set of Drill Tables—probably the most useful feature of the work—closes the section. These tables extend indefinitely, practice in arithmetical operations without additional labor on the part of the teacher, and compel pupils to work independently. An apendix, containing over 500 problems, concludes the book. The publishers are entitled to much credit for their share of the work. Illustrations, print, paper, and binding are exceedingly good.

THE SHAKESPEARE PHRASE BOOK. By John Bartlett; 1034 pages. Little, Brown & Co., Boston, Mass. Mr. Bartlett is the author of many works of intense value to the student, characterized by scholarly research and deep erudition. The book before us is one of that class and falls behind none of the others in careful preparation, complete compilation, and general excellence. It is "an index of the phraseology of Shakespeare; a concordance of phrases rather than words." The principal words used by the great dramatist are arranged in dictionary order, and under each are placed the lines containing the word and comprising the complete phrase which conveys the thought and preserves the sense. At the end of the book are comparative readings from several texts—a chapter of much importance, as it gives a finish and perfection to a work of great intrinsic merit. No student, teacher, or author should be without it; and the library in which it is not found as a reference book is sadly deficient.

THE DAY OF REST for November contains, as usual, a variety of articles briefly treated by their respective writers. "Don John" and "God and the Man" are continued, the latter to be concluded next month, when we expect to find the satisfactory unravelling of the plot it has been describing. The Vicar of Lowmeads still writes "Letters to my Parishioners," and Mr. Strachan in his "Twenty years of a Publisher's Life," gives some very interesting collections of Dr. Livingstone and Archbishop Whately, with illustrations. "A Cornish Holiday" contains some graphic descriptions of scenery, and their continuance will be welcomed. These are only a few of the subjects handled. The number is a valuable one, and will be prized by its readers.

THE IDEAL, a book for singing classes. *By L. O. Emerson.* Oliver Ditson & Co., Boston. Price 75 cents. We have examined from time to time several books of music published by this enterprising firm, and without detracting from the merits of their previous publications for use in schools and singing classes, must acknowledge that the "Ideal" is a decided step in advance. It is almost sufficient to mention that Mr. Emerson is the author to ensure its public success, as he is well known, through his other works, as a popular composer and practical teacher of music; but the "Ideal" contains so many beautiful airs, sacred and secular, arranged for choir singing, that the book itself should be purchased and used to secure the appreciation it deserves.

Publishers' Department.

We are compelled to hold over some reports, in type, of Teachers' Conventions, also a few contributions, reviews and other matters, through want of space. They will appear in our next issue.

With the expiration of the year quite a number of subscriptions also expire. We would respectfully ask subscribers to examine the address label and if the date thereon is 'Dec. 81,' it will be a hint to *renew their subscriptions*. Considering the intense satisfaction the JOURNAL has been giving, as testified to by subscribers in every Province of the Dominion and in the United States, we expect a still greater increase in circulation in the coming New Year. We feel much encouraged and stimulated by the large support we have received during the past twelve months, for which we return our grateful thanks, and we respectfully request its continuance.

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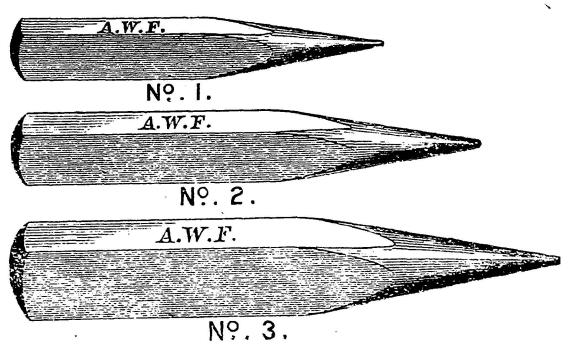

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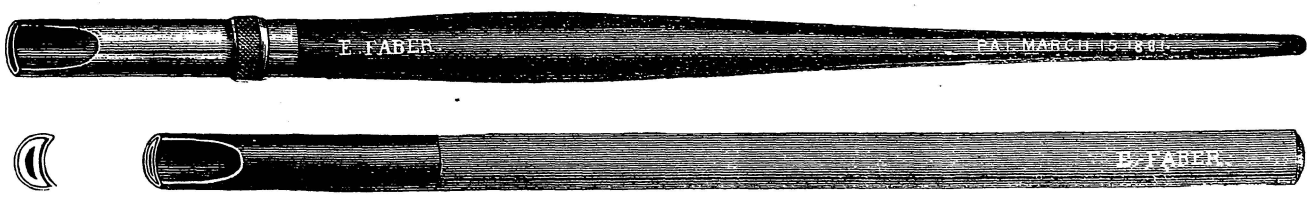

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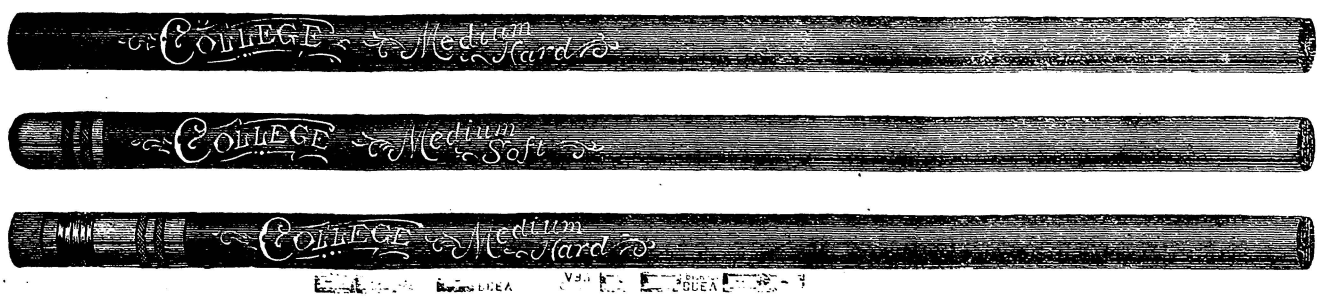

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FRANCE.

From one of the ablest living Mathematicians, Monsieur Paul Mansion, Professor of Mathematics in the University of Ghent, Assistant Editor of *Nouvelle Correspondence Mathematique*, and Editor in Chief of *Mathises*, etc. His writings have twice been crowned by the Royal Academy of Belgium, and he was awarded, in 1872, Great Prize in Mathematical Science. He says of the Hand-Book:—"I have found the work of M. McLellan extremely well adapted for its purpose. It is one of those rare works that fulfil all the promises of the preface. I have especially admired the skilful way in which he has brought within the compass of Elementary Algebra a class of questions which we, in our French and German books, only introduce into the parts exclusively taught in Universities."

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F. J. Child, *Prof. of Eng. Lit., Harvard College:* A *best* edition of Shakespeare I have always been at a loss to recommend. As yet I have not gone very far into this new work of Mr. Hudson's, but my first impression is that this may safely be called the very best edition. *(May 24, 1881.)*

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(FROM THE PREFACE.)

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What have the reformers given as a substitute for a speller? They took our bread and have given in return but a stone. The bread, even though a little stale, was much more wholesome than the stone. In Canada, parts of the lessons to be found in the Readers are taken as Dictation lessons, and the pupils are turned loose on society to shock it by their bad spelling and disgrace the schools which they attended and in which they should have been taught. The Readers do not contain all the words boys and girls will have to spell in life, and if they did, the lessons are not arranged in proper form for spelling lessons. Only a comparatively small portion of the Readers can be written from dictation in school. Bad as were the old spellers, they were infinitely better than nothing. This fact is now recognized in Great Britain and the United States, in both of which countries many valuable spelling books have recently been issued. That these were necessary in England is clearly shown by the fact that at a recent Civil Service Examination "no less than 1,861 out of 1,972 failures were caused by bad spelling."

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Examination Questions.

JULY EXAMINATIONS, 1881.

FIRST CLASS TEACHERS.—GRADE C.

ARITHMETIC.

TIME—THREE HOURS.

Examiner—J. C. GLASHAN.

1. Examine the merits of the following test of the accuracy of a sum in addition :—"Divide the sum of the digits in each horizontal line by 9, retaining only the remainders; divide the sum of these remainders by 9, and if the remainder then obtained be equal to the remainder obtained on dividing the sum of the digits in the answer by 9, the answer is correct."

Will the rest apply if "vertical lines" replace "horizontal lines" in the preceding; and if so, why?

2. A man sells goods for $1125. Half he sold at an advance of 25 per cent. on the cost, two fifths at an advance of $12\frac{1}{2}$ per cent., and the remainder at half cost. What did he originally pay for the goods?

3. If four pumps, each having a length of stroke of 3 ft. and piston radius of 3 inches, empty a cubical cistern whose side is 6 ft., in 1 hour; what must be the radius of the piston of each of 6 pumps whose stroke is 4 ft., that they may empty a cistern whose sides are half those of the former in $\frac{2}{3}$ of an hour, there being a defect in the latter pumps which takes away 10 per cent. of their efficiency?

4. A tax bill for $291.60 may be paid in three instalments—$111.60 on June the 25th; $90 on August the 4th; and $90 on October 4th. If all be paid on June 25th a reduction is allowed of $\frac{2}{100}$ of the instalments that might have been deferred. What rate per cent. per annum is this allowing for money?

5. A bankrupt's apparent assets are 80 per cent. of his liabilities; but on $20,000 of these assets he recovers only 80 cents on the dollar, and 4 per cent. of the amount the estate actually realizes is consumed in the process of winding it up. He pays 60 cents on the dollar; what were his liabilities?

6. A. gives B. $210 on May 11th, and in return takes his note at 5 months, agreeing not to exact interest. On June 11th, A. sells the note to C. for $205, and B. makes good to A. the $5 so lost. When the note falls due, C. exacts interest at 7 per cent. per annum. Find the rate per cent. per annum gained, lost or paid by the several parties to this transaction.

7. A municipality whose property is assessed at $1,000,000 borrows $40,000; find an expression for the tax (rate in the dollar) that must be levied to form a sinking fund that will repay this in 10 years, money being worth 6 per cent. per annum, the taxes being levied yearly and money compounded half yearly.

8. The sides of a triangle are 4, 5, 6; find its area.

9. Eight equal spherical iron balls, radius 1 foot, are just enclosed in a cubical box, and the box is then filled up with water. Compare the weights of iron and water in the box, the specific gravity of iron being 7·79.

Give the expression for the surface of a sphere in terms of its radius.

10. Show how to determine the surface of a right circular cone.

The height of a frustrum of such a cone is three feet, radius of two feet, and semi-vertical angle 30°; find its surface. If this surface were made of paper, and, being cut from the cone, were spread on a flat surface, find the dimensions of the curve formed by what was the bottom edge of the cone.

ALGEBRA.

TIME—THREE HOURS.

Examiner—ALFRED BAKER, M.A.

1. If $x^2+y^2+z^2+2xyz=1$, then

$$z\{(1-x^2)(1-y^2)\}^{\frac{1}{2}}+x\{(1-y^2)(1-z^2)\}^{\frac{1}{2}}+y\{(1-z^2)(1-x^2)\}^{\frac{1}{2}}=1+xyz.$$

also,

$$\left\{\frac{1+x+2yz}{1-x}\right\}^{\frac{1}{2}}+\left\{\frac{1+y+2zx}{1-y}\right\}^{\frac{1}{2}}+\left\{\frac{1+z+2xy}{1-z}\right\}^{\frac{1}{2}}=\frac{x+y}{1-z}+\frac{y+z}{1-x}+\frac{z+x}{1-y}.$$

2. Solve the equations

(1). $x^2+4xy+y^2=13=8xy-7x^2+y^2$.

(2). $(1+x)^{\frac{2}{n}}-(1-x)^{\frac{2}{n}}=(1-x^2)^{\frac{1}{n}}$.

3. If a be a root of the equation $f(x)=0$, then $x-a$ is a factor of $f(x)$.

The equation $4x^3-52x^2+49x-12=0$ has two equal roots; find all the roots.

The roots of the equation $x^4-10x^3+32x^2-38+15=0$ are of the form $\alpha+1$, $\alpha-1$, $\beta+2$, $\beta-2$; find all the roots.

4. Sum the series

$$1^2+2^2+3^2+\ldots\ldots+n^2.$$

5. Show how to find the sum of an Arithmetical Progression having given the first term, common difference, and number of terms.

Sum to n terms the series whose first term is a, and the successive differences b, $2b$, $3b$, $\ldots\ldots(n-1)b$.

6. Sum to n terms the series

$$1+3x+5x^2+7x^3+\ldots\ldots$$

If the natural numbers be divided into groups 1, 2+3, 4+5+6, &c., find the sum of the nth group, also the sum of the first n groups, and thence deduce the sum of $1^3+2^3+3^3+\ldots\ldots\ldots+n^3$.

7. Find the number of combinations of n things, r together.

On a shelf are 20 books, of which 5 vols. are of one set, 3 of another, and 2 of another, and the rest are odd books; find the number of different arrangements that can be made with them, each set being kept intact, though the order of books in it may be changed.

8. Two equal circles touch a straight line at A and B, and do not intersect, and on each of them at equal intervals are situate $2n+1$ points, A and B being such points. The only lines that contain more than two of the points are those that are parallel to AB. Find the number of triangles that can be formed by joining these points, both circles being utilized for each triangle.

9. Show how to determine the greatest term in the expansion of $(a+x)^n$.

10. (1) The coefficient of x^r in the expansion of $(1-x)^{-\frac{3}{2}}$ is $\dfrac{\lfloor 2r+1}{(\lfloor r)^2}\cdot\dfrac{1}{2^{2r}}$.

(2). If a_r be the coefficient of x^r in the expansion of $(1+x)^n$, then, n being a positive integer,

$$\frac{a_1}{a_0}+\frac{2a_2}{a_1}+\frac{3a_3}{a_2}+\ldots\ldots+\frac{na_n}{a_{n-1}}=\tfrac{1}{2}n(n+1).$$

EUCLID.

TIME—THREE HOURS.

Examiner—ALFRED BAKER, M.A.

1 Where would the difficulty in the theory of parallel lines present itself, if they were defined to be such that a transversal falling on them made the alternate angles equal?

2. If there be two straight lines the rectangle contained by their sum and one of them is equal to the square on that one together with the rectangle contained by the two straight lines.

3. In any triangle the squares on the two sides are together double of the squares on the half the base and on the straight line joining its bisection with the opposite angle.

If a point be taken such that the sum of the squares on the lines joining it to the angular points of a square is equal to three times the square itself, the locus of the point is a circle whose diameter is equal to a side of the square.

4. The angle at the centre of a circle is double the angle at the circumference upon the same part of the circumference.

Hence shew that the angle in a segment less than a semi-circle is greater than a right angle, and in one greater than a semi-circle is less than a right angle.

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A man falls into water, struggles for a few moments, and sinks. Strenuous efforts are made for his recovery, and finally the body is laid on the deck or shore. It is cold. The face is pale. The eyelids are livid, swollen and partly open. The pupil, or dark spot in the centre of the coloured part of the eye, is very large. Froth oozes from the mouth and nostrils. The chest is still ; he does not breathe. A hand is placed over the heart just below the left breast ; its beat is unfelt. Purple blotches are scattered here and there over the body and limbs.

With all these symptoms, so indicative of death, can that chest be made to rise and fall in the act of breathing again ? Can anything be done that the heart-beat may be perceived once more ? Is it possible that life can be restored to those who are apparently drowned ?

These questions the following rules are intended to answer ; and if faithfully and intelligently enforced, reasonable hope of successful restoration to life may be entertained in many cases.

Rule 1. - *Loosen everything around the neck, turn the patient's face downward, raise the body several inches higher than the head, and retain it in this position long enough to count four slowly.* This movement will enable the froth and water to escape from the throat, mouth and nostrils, so that air may have free access to the lungs as soon as breathing commences.

Rule 2.—*Place the patient on his back, with the chest slightly elevated by a folded coat or other suitable object, and the head in a straight line with the body.* This position is necessary for the practice of artificial breathing, described in Rule 4.

Rule 3.—Immediately below the root or back part of the tongue is the entrance of the air tube leading to the lungs. This entrance is guarded by a small valve, which is closed when the tongue falls far back into the throat, and opened when it is drawn forward. Hence the third Rule :—*Draw the tongue forward, and retain it in this position.* This organ being covered with the mucus of the mouth, is very slippery and cannot be easily held by the naked hand. This difficulty is readily overcome, however, by placing a cotton rag or handkerchief between it and the fingers.

Rule 4. -*Practice artificial breathing.* This can only be accomplished by imitating the natural movements of the chest. In order that air may enter the lungs, the chest cavity must be enlarged, and in order that it may be expelled, the chest cavity must be diminished. Nature accomplishes these ends through the action of certain muscles which surround the chest By art the same results may be effected, although not so perfectly, as follows :— *The operator stands astride the patient's hips, grasps the arms at the elbows, and raises them above the head, until they nearly meet.* This movement expands the chest, and air enters the lungs.

Next he brings the arms down by the side, and with both hands on the lower part of the chest and stomach, makes, by a quick motion, firm pressure towards the patient's back. This act diminishes the chest cavity, and consequently forces the air out of the lungs. This double movement is to be regularly repeated from twelve to fifteen times a minute.

Rule 5.—*Without interfering with artificial respiration remove all cold, wet clothing, and restore warmth to the body.* Importance must be attached to this rule and the greatest possible haste exercised in carrying it out, especially if the body has been long in the water. If practicable, while the body is being rescued from the water, make preparations for the application of heat, either by hot blankets, hot water, hot air, hot bottles, hot sand, hot salt, or any other method which the exigencies and circumstances of the case may suggest. Should it be necessary to convey the patient some distance, in order to secure the best facilities for the restoration of breathing and warmth, the body should first be well wrapped in dry, warm clothing—the bystanders, if necessary, sharing their garments for the purpose.

Rule 6.—*Rub the whole body vigorously with the hand or with hot flannel.* This process adds heat to the system and aids in promoting respiration.

Rule 7.—*Persevere.* Be not discouraged by hours of apparently unsuccessful toil. Life may yet be saved.

Rule 8.—*Avoid all confusion, but hasten, hasten !* Every moment which passes unimproved is lost, and the hope of restoration dimmed, therefore *hasten !*

Remember that although these rules are placed in a certain consecutive order, it is not intended that this particular order must be strictly followed in every case. Indeed, all the various processes require as far as possible to be commenced and carried on simultaneously. And the labour should be divided among reliable hands. One attends to the tongue ; one to the artificial respiration ; two or three to the friction of the body ; several to the supply of warmth.

Rule 9.—Should the effort be crowned with success, *place the patient in a warm bed, surrounded with plenty of fresh air, and as soon as he can swallow, give him hot milk, tea, or coffee.* Under no circumstances whatever, allow any fluids to be administered, unless the patient can easily and certainly swallow.

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C. P. MASON.

DUKESELL,
CHRISTCHURCH ROAD, STREATHAM,
January, 1879.

W. J. GAGE & CO., Publishers.

5. If a point be taken within a circle the rectangle under the segments of any chord through it is constant. Prove only the general case.

Given the vertical angle and base of a triangle, and also the rectangle contained by the difference between the other two sides and one of them, construct the triangle.

6. Describe a circle to touch three given straight lines.

If the three points in which an escribed circle of a triangle touches the sides be joined, the triangle so formed will be obtuse-angled.

7. AB is a given straight line, C its middle point, and D another fixed point in it. CE is drawn at right angles to AB and in it any point F is taken ; FD is produced to G, so that as F changes its position in CE the rectangle FD, DG is always equal to the rectangle AD, DB, shew that the locus of G is a circle.

8. Triangles of the same altitude are one to another as their bases.

Triangles are to one another in the ratio compounded of the ratios of their altitudes and bases : prove this after the manner of Euclid.

9. To describe a rectilineal figure that shall be similar to one and equal to another given rectilineal figure.

CHEMISTRY.

TIME—ONE HOUR AND A HALF.

Examiner—E. HAANEL, Ph. Dr.

1. It can be demonstrated that the flame of a Bunsen gas lamp becomes non-luminous, whether the gas allowed to mix with the coal gas in the long tube of the lamp be common air, carbon dioxide or pure nitrogen. Show that this fact is *not* in harmony with the received theory, accounting for the nature and structure of flame.

2. At 26°C. the density of nitrogen tetroxide approaches 46. How should the formula for this compound be written to correspond to this density ?

3. Required to prepare nitrogen monoxide from ammonium nitrate :

(*i.*) Write out the equation representing the reaction occurring in its preparation.

(*ii.*) Represent by diagram the apparatus required for its elimination and collection.

(*iii.*) Name the properties of the gas.

(*iv.*) State what precautions must be observed in preparing this gas, when intended to be used for inhalation.

4. As the result of a certain experiment, it was found that 50 litres, measured at 5°C. and 758^{mm}P., of a mixture of oxygen and ozone, containing 18 per cent. of the latter, when allowed to bubble through a solution of hydrogen dioxide, were just sufficient to completely decompose it. Calculate from this data the quantity of hydrogen dioxide present in the original solution.

5. Write out the atomic and molecular equations representing the reactions occurring in the preparation of—

(*i.*) Oxygen from potassium chlorate.

(*ii.*) Hydrogen from water by the action of sodium.

(*iii.*) Nitrogen tetroxide by mixture of nitrogen dioxide with oxygen.

6. Contrast the properties of oxygen, phosphorus and sulphur with those of their respective allotropic modifications.

7. Write out the formulæ for the following compounds ;—Sodium chloride, sodium hydroxide, sodium oxide, calcium chloride, calcium hydroxide, calcium monoxide, aluminium chloride, aluminium hydroxide, alumina, potassium nitrite, potassium nitrate, potassium sulphite, potassium sulphate, potassium iodide, potassium iodate.

ELEMENTARY MECHANICS.

TIME—THREE HOURS.

Examiner—J. C. GLASHAN.

1. Define a Couple, and shew that the forces composing one do not admit of a single resultant.

State the various transformations that may be made on a couple without alteration of effect. Establish the truth of one of them.

The sides of a quadrilateral are acted on by forces perpendicular to them and proportional to them in magnitude, the forces being turned inwards. Show that if the points of application divide the sides in a constant ratio they reduce to a couple.

2. Find the centre of gravity (1) of a triangular area ; (2) of three uniform rods forming a triangle.

In the latter case, if the system be suspended by a string attached to a point in one of the sides, find the position of the point that the triangle may rest with one side vertical.

3. State Newton's Laws of Motion, and explain the nature of the reasoning by which they are arrived at.

Shew how the second and third enable us to exhibit dynamic phenomena by means of equations.

4. (1) A gun (wt. 3 tons) rests on a plane of inclination 30° to the horizon, being pointed downwards parallel to the plane ; a shot of 60 lbs. is discharged from it with a velocity of 1500 feet per second. Find how far up the plane the gun will recoil.

(2) Two weights of 5 and 10 lbs. are attached by a string, the heavier hanging vertically from the edge of a smooth horizontal table on which the lighter rests. Determine the motion.

5. The normal pressure on a surface exposed to the action of a fluid is equal to the pressure on a plane horizontal surface of equal area at the same depth below the surface that the centre of gravity of the first surface is, gravity being the only force acting.

A tetrahedron whose faces are equilateral triangles is just filled with fluid and has three of its corners in a horizontal plane ; shew that when the fourth is above this plane the total pressure on all the sides is three times the total pressure when this corner is below the plane.

6. When a body is immersed in a fluid it loses a portion of its weight equal to the weight of the displaced fluid.

A sphere of radius a is composed of a substance n times heavier than water ; find the radius of a spherical portion that must be hollowed from its inside that it may float in water with $\frac{1}{n}$th of its volume above the surface.

HISTORY.

TIME—THREE HOURS.

Examiner—JOHN WATSON, M.A., L.L.D.

(*Only* SIX *of these questions are to be done.*)

1. Describe the circumstances which led to the invitation to England of William of Orange, and explain the considerations which induced him to accept of it. State the causes of the discontent which followed his accession.

2. Explain the advantages over the old system of Sunderland's plan for choosing the Ministers of the Crown.

3. Give the substance of the statute of Edward III. as to High Treason. Point out its main imperfection, and show the strained constructions to which that imperfection gave rise. What improvement was effected by the statute of William III.?

4. Explain the political significance of the impeachment of Sacheverel. What light does the trial throw on the distinctive principles of the two great parties in the state ?

5. What was the object of the War of the Great Alliance ? How far was that object realized by the Treaty of Utrecht ? Give the arguments for and against the Peace.

6. State the causes which tended to prevent the final Union of England and Scotland ; the terms on which the Union took place, and the benefits flowing from it.

7. Explain the policy of George III, and describe his relations with successive Ministers. What constitutional change was brought about by his policy ?

8. Describe the political condition of the American Colonies on the accession of George III, and explain the causes which led to their separation from England.

9. Trace the progress of the principle of Religious Toleration from the Revolution to the reign of George III, and describe the changes in the social and religious condition of the people produced by the Religious Revival of Whitfield and Wesley.

10. Give a short account of the industrial progress of England in the eighteenth century, mentioning the chief inventions. What is the main principle underlying the "Wealth of Nations ?" Describe Pitt's financial policy, and point out its political results.

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SUPPLEMENT TO "THE CANADA SCHOOL JOURNAL."

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The close of a year marked by an experiment of unusual effort and money expenditure in enlarging the CANADA SCHOOL JOURNAL, and adding considerably to its staff, has brought results that have more than repaid the promoters of our paper for their enterprise. The merits of the CANADA SCHOOL JOURNAL as a representative educational paper have been widely acknowledged by the educational press in England and in the States. To quote an instance of this, and it is but one among many, the *Institute Worker*, a new journal of education under the able editorship of Mr. T. W. Field, recommends all interested in teaching to take both their own State School Journal, and in addition, the CANADA SCHOOL JOURNAL. But apart from literary merit, the year 1880 has brought abundant evidence of the greatly increased acceptance of the CANADA SCHOOL JOURNAL as a paper specially and *par excellence* representing the teaching interest of this country. This has taken the unimpeachable shape not merely of extended circulation, but of entire teachers' associations unanimously resolving to send the CANADA SCHOOL JOURNAL to every teacher in their county at the expense of the association.

In pursuance of the policy which aims at supplying to the teachers of Canada, at the smallest possible cost, the maximum of value, it is the intention of the proprietors of this JOURNAL, during the year 1881, to fully maintain the efficiency of its several departments. The Mathematical Department will, as before, be conducted by a mathematician second to none in Canada for scientific acquirements, and whose high position as a mathematical teacher in the University of Toronto brings him in continual contact with the difficulties of practical work. The very great importance of this department to our readers will justify the prominence assigned to it, and the care expended in furnishing a continually fresh series of mathematical exercises.

The department of Teachers' Associations and Conventions will receive increased attention, a facility being given for this by the greatly enlarged size of the JOURNAL. In the proceedings of these associations is centered the vital action of the teaching profession. It is of the utmost importance that our readers should fully inform themselves of all that goes on at each convention. The meetings will, as before, be in most cases attended by a practical short-hand reporter representing the CANADA SCHOOL JOURNAL, and large extracts from the most important papers read will be printed.

The Practical Teachers' Department will as before be in the hands of a gentleman whose writings on similar questions have been stamped with the hall-mark of sterling merit not only by the approval of the great English educational journals, but by the fact that his Manuals of Teaching have been republished for school use in several of the leading cities of America. No pains will be spared to illustrate and develop new ideas as to methods of teaching. This is a subject which no teacher can afford to neglect, as the freshness and *verve* obtained by observing the continual progress of the teaching art in the hands of its most intelligent exponents is the only salvation from the fatal facility of routine.

As before, marked attention will be given to the Examination Papers department. It is of the utmost importance, not only to those preparing for examination, but to all teachers, to test and measure their knowledge by a continual use of this invaluable adjunct to study. A large number of original examination papers, as well as a selection from the best already extant, will be furnished by experienced teachers for the pages of the CANADA SCHOOL JOURNAL.

We desire also to remind our readers of the teaching profession that this journal has an extended circulation among School Trustees and those interested in education, outside the class of teachers. It has thus at command a powerful leverage, which it is the intention of the proprietors to exert to the utmost in promoting the two most important practical needs of the teaching profession—the increase of salary and the full assertion of that social position without which no profession can maintain its self-respect. On these subjects the CANADA SCHOOL JOURNAL will have the courage of its opinions, and will speak very plainly when plain speaking is so very much required. The present remuneration of the labor on which the intellectual future of Canada depends is very far behind what it ought to be. It is true that a considerable advance has taken place, especially in the Province of Ontario, in this respect during the last ten years, a result due in no small degree to the wise policy of the present Minister of Education in raising the standard of examination, and in consequence the character of the teachers. The same thing is taking place in the provinces of Nova Scotia and New Brunswick, where the efforts of Dr. Allison and of Dr. Rand have been energetically directed to the same object. But the average pay of the teachers is still inadequate, and it will be one of the chief objects of our paper to promote reform in this respect. Every step gained, every school put on a better footing as regards salary, every trustee who can be impressed with the conviction that the vulgar parsimony which curtails the teacher's salary is as mischievous as it is illiberal, is so much progress made. In conclusion, the proprietors of the CANADA SCHOOL JOURNAL respectfully invite the co-operation of teachers in writing to the columns of this paper on all subjects of professional interest. And we desire to submit it to their notice that one of the staff of editors will be present daily at the office of this journal between the hours of nine and six, and will be happy to confer on matters of educational interest with any of our readers who may honor him with a visit. We wish that the teaching profession should look on the CANADA SCHOOL JOURNAL not merely as a literary representative, but as a trusty champion and professional and personal friend. In which spirit we give our readers the kindest of greetings for 1881.

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J. McLEAN, Town Inspector.
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